MEDICAL

TIMES

Journal for the Family Physician

April, 1960

MEASUREMENT OF TOBACCO SMOKING

REJECTION OF BREAST FEEDING

PSYCHIATRIC TREATMENT RESOURCES



FIRST OF A NEW CLASS OF THERAPEUTIC AGENTS FOR SUPERIOR, SAFER, FASTER CONTROL OF COMMON EMOTIONAL DISTURBANCES

new LIBRIUM

to free the patient from anxiety and tension, whether presenting symptomatology or associated with organic or functional disorders.

to free the therapy from the drawbacks of previous agents.

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G. A. Constant: Dis. Nerv. System, 21: (Suppl.), 37, 1960.

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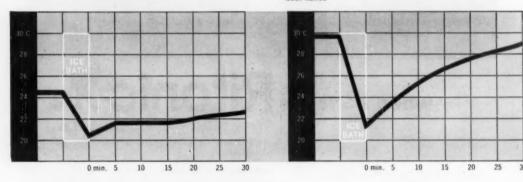
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Reference: 1. Kappert, A.: Schweiz. med. Wchnschr. 85:273, 1955. Bibliography: 1. Van Wijk, T.W.: Angiology 4:103, 1953. 2. Gilhespy, R.O.: Brit. M.J. 2:1543, 1957. 3. Gilhespy, R.O.: Angiology 7:27, 1956. 4. Winsor, T.: Angiology 4:134, 1953. 5. Reeder, J.J.: Geneesk. gids. 31:370, 1953.



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Lunch time provides a welcome break in the busy schedules of attendings, house staff and nurses at the Norwalk (Conn.) Hospital. The coffee shop is operated by the Hospital Volunteers, made up of some 600 civic-minded women in the community who play an important role in the functioning of the institution. For more about this painting by Stevan Dohanos see page 204a.



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1. Muir, A., and Cossar: I. A., Brit. M. J. 2:7-12 (July 2) 1955. 2. Waterson, A. P.: Brit. M. J. 2:1531 (Dec. 24) 1955. 3. Brown, R. K., and Mitchell, N.: Gastroenterology 31:198-203 (Aug.) 1956. 4. Kelly, J. J., Jr.: Am. J. Med. Sci. 232:119-128 (Aug.) 1956. 5. Brick, I. B.: J. Am. Med. Assn. 163:1217-1219 (April 6) 1957. 6. Trimble, G. X.: Correspondence, J. Am. Med. Assn. 164:323-324 (May 18) 1957. 7. Lange, H. F.: Gastroenterology 33:770-777 and 778-788 (Nov.) 1957. 8. Tebrock, H. E.: Ind. Med. & Surg. 20:480-482, 1951. 9. Harrisson, J. W. E.; Packman, E. W., and Abobtt: D. D. J. Am. Pharm. Assn. (Scient. Ed.) 48:50-56 (Jan.) 1959. 10. Paul, W. D.; Dryer, R. L., and Routh, J. L.: J. Am. Pharm. Assn. (Scient. Ed.) 39:21 (Jan.) 1950.

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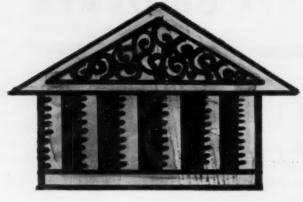
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Typhoid Fever Albert G. Bower, M.D. like money in the bank...





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(1) Holly, R. G.: Postgrad. Med. 26:418, 1959. (2) Evans, L. A. J., in Wallerstein, R. O., and Mettier, S. R.; Iron in Clinical Medicine, Berkeley, Univ. California Press, 1958, p. 170. (3) Schwartz, L.; Greenwald, J. C., and Tendler, D.: Am. J. Obst. & Gynec. 75:829, 1958.

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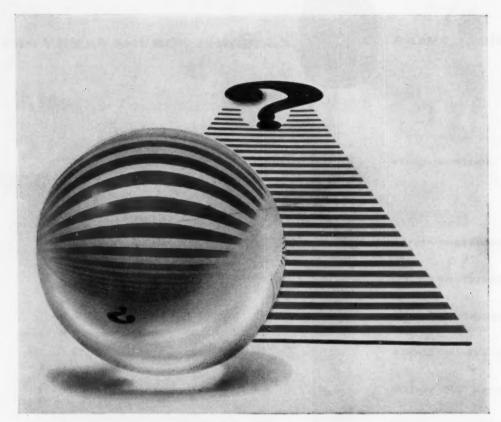
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References: I. Dowling, H. F.: Postgrad, Med. 27:594 (June) 1955. 2.

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Sulpho-Lac 194a
Vergo 172a

(VOL. 88, NO. 4) APRIL 1960

Steroids and Hormones

Aristocort 22a, 23a Decadron Cover 4 Medrol 114a Norlutin 89a Nugestoral Cover 3 Proloid 177a Tace 165a, 167a

Tranquilizers

Librium Cover 2 Meprospan-400 39a Miltown opposite page 144a; 171a Sparine 201a

Ulcer Management

Aludrox 72a Modutrol 195a

Upper Respiratory Infection Preparations

Nolamine 174a

Vaginal Preparations

Massengill Powder between pages 112a, 113a Sultrin Triple Sulfa Vaginal Tablets 125a Triburon 197a Trichotine 106a, 107a

Vitamins and Nutrients

Beminal Forte 101a Eldec Kapseals 186a, 187a Lederle Nutritional Formulas 121a, 122a, 123a Myadec 49a Stresscaps 44a Vi-Sol 70a Vi-Tyke 52a

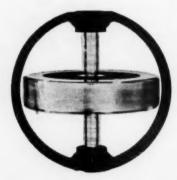
Weight Control

Amplus Improved 28a Appetrol 60a Preludin 141a in rheumatoid arthritis...

for total corticosteroid benefits

Substantiated by published reports of leading clinicians:

• effective control
of inflammatory
and
allergic symptoms¹⁻⁹



• minimal disturbance
of the patient's
chemical and psychic
balance²⁻¹⁷



At anti-inflammatory and antiallergic dosage levels, ARISTOCORT means:

- · freedom from salt and water retention
- · virtual freedom from potassium depletion
- · negligible calcium depletion
- · euphoria and depression rare
- · no voracious appetite-no excessive weight gain
- · low incidence of peptic ulcer
- · low incidence of osteoporosis with compression fracture

Precautions: All traditional precautions to corticosteroid therapy apply. Dosage should be adjusted to the smallest amount needed to suppress symptoms. Supplied: Scored tablets of 1 mg. (yellow); 2 mg. (pink); 4 mg. (white); and 16 mg. (white). Diacetate Parenteral (for intrasynovial and intra-articular injection). Vials of 5 cc. (25 mg./cc.); Diacetate Syrup, bottles of 4 fl. oz. (2 mg. per 5 cc.).

References: 1. Duke, C. J. and Oviedo, R.: Antibiotic Med. & Clin. References: 1. Duke, C. J. and Oviedo, R.: Antibiotic Med. & Clin, Ther. 5:710 (Dec.) 1958. 2. McGavack, T. H.: Clin. Med. (June) 1959. 3. Freyberg, R. H.; Berntsen, C. A., Jr., and Hellman, L.: Arthritis and Rheumatism 1:215 (June) 1958. 4. Hartung, E. F.: J. Am.A. 169:973 (June 21) 1958. 5. Hartung, E. F.: J. Florida Acad. Gen. Pract. 8:18, 1958. 6. Zuckner, J.; Ramsey, R. H.; Caciolo, C., and Gantner, G. E., Jr.: Ann. Rheumat. Dis. 17:398 (Dec.) 1958. 7. McGavack, T. H.; Kao, K. T.; Leake, D. A.; Bauer, H. G., and Berger, H. E.: Am. J. M. Sc. 236:720 (Dec.) 1958. 8. Council on Drugs: J.A.M.A. 169:257 (January 17) 1959. 9. Spies, T. D.: Souch, M. J. 50:216 (Feb.) 1957. 10. Feinberg, S. M.; Feinberg, A. R., and Fisherman, E. W.: J.A.M.A. 167:58 (May 3) 1958. 11. Segal, M. S. and Duvenci, J.: Bull. Tults Northeast M. Cater 4:71 (April-June) 1958. 12. Segal, M. S. Report to east M. Center 4:71 (April-June) 1938. 12. Segal, M. S.: Report to the A.M.A. Council on Drugs, J.A.M.A. 169:1063 (March 7) 1938. 13. Appel, B.: Tye, M. J., and Lichoschn, E.: Antibiotic Med. & Clin. Ther. 5:716 (Dec.) 1958. 14. Kaln, F.: Canad. M.A.J. 79:600 (Sept.) 1958. 15. Mullins, J. F. and Wilson, C. J.: Texas J. Med., 54:648 (Sept.) 1958. 16. Shelley, W. B.; Harun, J. S., and Pillebury, D. M.: J.A.M.A. 167:3590 (June 21) 1958. 17. DuBois, E. L.: J.A.M.A. 167:13590.



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ELIXIR ALURATE DISRUPTS TENSION

Dependable, prompt-acting daytime sedative.

Broad margin of safety. Virtually no drowsiness. Over a quarter century of successful clinical use. Alurate is effective by itself and compatible with a wide range of other drugs. To avoid barbiturate identification or abuse, Alurate is available as Elixir Alurate (cherry-red) and Elixir Alurate Verdum (emerald-green).

Adults: 1/2 to 1 teaspoonful of either Elixir Alurate or Elixir Alurate Verdum, 3 times daily. ALURATE®-brand of aprobarbital.

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Off the Record...

True Stories From Our Readers

Contributions describing actual and unusual happenings in your practice are welcome. For obvious reasons only your initials will be published. An imported sculptulite figurine . . . an amusing caricature of a physician . . . will be sent in appreciation for each accepted contribution.

Paid His Phone Bill, Though

This story concerns my father, who was a general practitioner and surgeon.

In the 1930's he had among his patients a bootlegger who suffered from urethral strictures. About every two or three months this patient would go into urinary retention and require catheterization. This always seemed to happen between 1 A.M. and 5 A.M.

After some 18 months had passed and the patient had made no attempt to pay his bill, my father told him on one of his early morning visits that the bill would have to be paid; otherwise my father would no longer be available to treat him. The patient promised to pay after his next trip of running whiskey.

Some two months passed and the bill was still unpaid. One morning, about 2 A.M., the phone rang and the patient's wife told my father, "Doctor, come quick—his water has shut off."

"You're damn right it has," father replied. "He didn't pay his water bill."

G.T.W., M.D. Greensboro, N.C.

The Feeling Was Mutual

I was delivering one of our nurses under spinal saddle block anesthesia. The baby, being rather large, was giving me a little difficulty in delivering the shoulders. I turned to the circulating nurse and said, "Please push on the fundus, nurse, and let's get this big b——— out of here!"

Much to my embarrassment, as I looked up

I saw my nurse-patient looking directly at me. (Subconsciously I had thought she was under general anesthesia.) I apologized profusely for my strong statement.

My nurse-patient broke out in a big laugh and said, "Don't apologize, doctor—and get that big b——— out!"

G. B. A., M.D. Douglas, Ariz.

Some People Are Just Stuffy

My most amusing, embarrassing and patientlosing experience came one day as I was examining a young woman who had just given me a history of two month's amenorrhea which I presumed to be an early pregnancy.

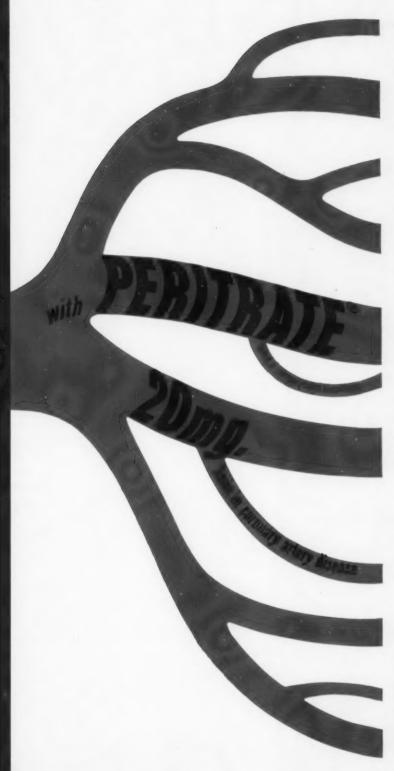
The patient was prepared for pelvic examination and the speculum inserted. The vaginal vault was exceptionally deep and the uterus was anteflexed so that the cervix faced extreme posterior. After an exhausting two minutes of trying to get an adequate view of the cervix by opening and closing the speculum while probing deeper into the vagina, I very absentmindedly said, "Say ah, please."

I immediately began to laugh hysterically. My nurse also began to laugh. I finally had to leave the room, leaving speculum in position. The patient didn't see anything funny at all about the situation.

After composing myself I finished the examination and in my best professional manner instructed the woman as to her prenatal care. I

Concluded on page 29a

improve coronary blood flow in angina and postcoronary patients



a proven drug-

supported by extensive clinical experience during the last ten years

selective physiologic action —

unlike most nitrites, dilates coronary vessels principally, with minimal peripheral effects, so that coronary blood flow is increased with no significant change in blood pressure or pulse rate

exceptionally safe -

safe for prolonged use—essentially free from side effects—tolerance has not been reported—no hypotension, orthostatic or otherwise, has occurred—so safe, it is used routinely even after a coronary

effective in mildest to severest angina pectoris—

4 out of 5 patients experience reduced frequency and severity of anginal attacks, increased exercise tolerance, lowered nitroglycerin dependence, improved ECG findings

■ ideal in postcoronary convalescence —

helps establish and sustain collateral circulation to reduce the extent of myocardial damage, to encourage natural healing and repair, to minimize ensuing anginal attacks

■ adaptable prophylaxis-

available in several formulations to meet the individual requirements of patients with coronary artery disease: Peritrate 20 mg, for basic prophylaxis, Peritrate with Phenobarbital for the apprehensive patient, Peritrate Sustained Action for convenient 24-hour protection with just 2 tablets daily.



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D-AMPHETAMINE + ATARAX® + VITAMINS AND MINERALS)

(AND SHE'S LOSING NOTHING BUT WEIGHT)

- She's not losing her ambition to reduce. (Thanks to d-amphetamine's proven anorectic action.)
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MAKE THE ONE FOR GOOD MEASURE AMPLUS IMPROVED

One capsule half-hour before each meal. Bottles of 100 soft, soluble capsules, this actual size.

Prescription only.

New York 17, N. Y. Division, Chas. Pfizer & Co., Inc. Science for the World's Well-Being told her to return in four weeks, fully expecting not to see her again. I didn't.

H.J.E., M.D. Columbus, Ind.

Obviously Malingering

While on accident room service as an intern, I could count on the almost routine arrival each Saturday night of Mary, an elderly alcoholic, via the police ambulance. Her symptoms were many and varied, but always imaginary, and the police took a dim view of her free rides.

All this was changed one night when Mary arrived complaining of a fall. "She thinks she broke her arm, Doc," said the Irish cop, "but see, she can move it." And he swung her entire arm from the shoulder girdle, in an almost perfect circle!

L. J. S., M.D. Dover-Foxcroft, Me.

A Job for the Minister

A chronic arthritic patient was in for a check-up. As I was about to get some medicine for her, she held her abdomen with both hands and said, "By the way, Doc. I'm awfully consecrated, too."

R.M.M. Lawndale, N.C.

Difficult, But He Did It

Recently a male patient presented with urinary tract complaints. I told my nurse to collect a two-glass specimen.

She handed the patient two specimen bottles and explained: "The doctor will need a two-glass specimen, one in the first bottle and two in the second."

She was chagrined when the patient returned with a urine specimen (No. 1) in the first bottle and a stool specimen (No. 2) in the second!

R.A.K., M.D. Greensboro, N.C.

Always Follow Directions

A colleague of mine was surprised one day, when examining an infant, to see a thick red fluid running from both ear canals.

He at once asked the mother how long her child had been suffering from this very bizarre and apparently serious disorder.

The bewildered parent explained how she had consulted me about the child and I had diagnosed an ear infection. I had then prescribed this red liquid medicine. On the label were the following directions: "Twenty drops four times a day for ear infection."

What I hadn't written was . . . "per os."

D. P. H., M.D. Ajo, Ariz.

Hard to Please

A few years ago I had as a patient a woman in her thirties who had delivered eight children. I performed a much needed plastic repair of her prolapsed bladder and rectum, very successfully, I thought.

About six weeks after the surgery, examining her and mentally congratulating myself on the result, I asked her if she wasn't pleased. She hesitated, then said: "Well, my husband says that even a carpenter would measure the door before he built the doorway."

A little dilatation caused even the husband to be pleased.

B.A.F., M.D. Ellensburg, Wash.

Unique Earring

A young lady entered my office late one afternoon, looking flustered and embarrassed. Her predicament was apparent—she had a fish hook caught in the lobe of her ear, and there was a live fish still on the hook. The hook was removed without difficulty, but not before everyone in the office had enjoyed a good chuckle.

J.K.W., M.D. Lillington, N.C.

in edema or

- more doctors are prescribing –
- more patients are receiving the benefits of -
 - more clinical evidence exists for —



"Chlorothiazide was given to 16 patients for a total of 295 patient-treatment days." "Chlorothiazide is a safe, oral diuretic with a clinical effect equal to or greater than a parenteral mercurial." Harvey, S. D. and DeGraff, A. C.: N. Y. State J. Med., 59:1769, (May 1) 1959.



"... our program has been one of polypharmacy in which we attempt to deplete body sodium with chlorothiazide. This drug is continued indefinitely as background medication for all antihypertensive drugs." Moyer, J. H.: Am. J. Cardiology, 3:199. (Feb.) 1959.



"Chlorothiazide is an excellent agent for relief of swelling and breast soreness associated with the premenstrual tension syndrome, since all patients [50] with these complaints were completely relieved." Keyes, J. W. and Berlacher, F. J.: J.A.M.A., 169:109, (Jan. 10) 1959.

DOSAGE: Edema—One or two 500 mg. tablets DIURIL once or twice a day. Hypertension—One 250 mg. tablet DIURIL twice a day to one 500 mg. tablet DIURIL three times a day.

SUPPLIED: 250 mg, and 500 mg, scored tablets DIURIL (chlorothiazide) in bottles of 100 and 1,000.

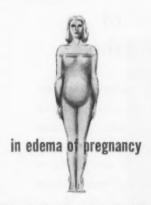
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Additional information is available to the physician on request.

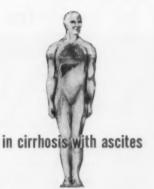
hypertension

CHI OROTHIAZIDED

than for all other diuretic-antihypertensives combined!



"One hundred patients were treated with oral chlorothiazide." "In the presence of clinically detectable edema, the agent was universally effective." "Chlorothiazide is at present the most effective oral diuretic in pregnancy." Landesman, R., Ollstein, R. N. and Quinton, E. J.: N. Y. State J. Med., 59:66, (Jan. 1) 1959.



"All three of the patients with Laennec's cirrhosis, ascites and edema had a favorable response, with a mean weight loss of 8 lbs., during the fiveday treatment period with a slight decrease in edema." Castle, C. N., Conrad, J. K. and Hecht, H. H.: Arch. & Int. Med., 103:415, (March) 1959.



"In a study of 10 patients with the nephrotic syndrome associated with various types of renal disease, orally administered chlorothiazide was a successful, and sometimes dramatic, diuretic agent." Burch, G. E. and White, M. A., Jr.: Arch. Int. Med., 103:369, (March) 1959.



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All the advantages of liquid Spensin-PS in convenient tablet form. Two synergistic antibiotics, polymyxin and dihydrostreptomycin for decisive bactericidal action. The activated adsorbent of 5 to 8 times kaolin's capacity: Attapulgite—shown by in vitro studies to adsorb enteropathogenic viruses and bacterial endotoxins.

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Tablets and Suspension: Activated attapulgite, pectin, alumina with polymyxin B sulfate and dihydrostreptomycin

*TRADEMARK



Diagnosis, Please!

Edited by Maxwell H. Poppel, M.D., F.A.C.R., Professor of Radiology,
New York University College of Medicine and Director of Radiology, Bellevue Hospital Center

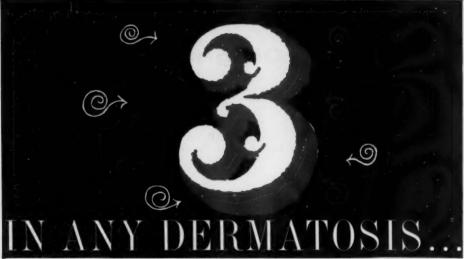
Forty-eight-year-old male. Admitted to hospital for routine "work up." No specific complaints.

Which is your diagnosis?

- 1. Normal
- 2. Diabetes Mellitus
- 3. Calcification of pelvic blood vessels
- 4. Schistosomiasis of lower ureter

(Answer on page 202a)





Suit the therapy to the condition remember this topical trio for personalized treatment

- · each stops itch and inflammation quickly
- each instantly restores and maintains the normal protective acid pH



the best therapeutic beginning in acute skin inflammation TABLETS OR POWDER PACKETS pH 4.2

The Original Modernized Burow's Solution

convenient wet dressings stay moist longer...maintain constant pH ... speed healing ... reduce inflammation.

Tablets in containers of 12, 100, 500, 1000. Powder Packets in boxes of 12 and 100.



maximum steroid benefits at lower dosage - lower cost

CREME OR LOTION PH 4.6

Hydrocortisone Free Alcohol in ACID MANTLE®

Most universally employed anti-inflammatory steroid for topical use.

1/2 % hydrocortisone in exclusive ACID MANTLE vehicle "is about as effective as 1% in most conditions treated."2

1/2%, 1% or 2% hydrocortisone free alcohol in water-miscible ACID MANTLE vehicle. In 1/2 ounce squeeze bottles, each with special soft plastic ear-applicator.



if infection complicates inflammation

CREME OR LOTION PH 4.6

Hydrocortisone Free Alcohol plus Neomycin in ACID MANTLES

1/2% or 1% hydrocortisone free alcohol and 5 mg. per Gm. neomycin sulfate in exclusive water-miscible ACID MANTLE vehicle. In 1/2 ounce squeeze bottles, each with special soft plastic ear-applicator.

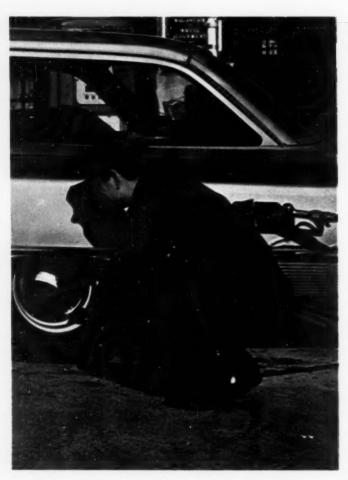
1. Jones, E. H.: Eye, Ear, Nose & Throat Month. 38:460, 1959. 2. Lockwood, J. H.: Bull. A. Mil. Dermatologists 4:2, 1955.



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TRACE "TRANQUILAXANT" PARTICION OF THE STATE OF THE STAT



relaxes skeletal muscle spasm so the patient can continue to work

Clinical experience shows that Trancopal will enable your patients with low back pain to keep going strong. Lichtman1 reports that 310 of his 331 patients treated with Trancopal obtained satisfactory relief. These patients were suffering from low back pain, stiff neck, postoperative muscle spasm or other skeletal muscle spasms associated with trauma, bursitis, osteoarthritis and rheumatoid arthritis. Mullin and Epifano² reported that Trancopal brought relief to all of 39 patients with skeletal muscle spasm. In these patients, who had suffered from trauma, bursitis, rheumatoid arthritis, osteoarthritis, and intervertebral disc syndrome, the effect of Trancopal was "... excellent and prompt ... "2 Gruenberg8 obtained marked relief with Trancopal in 258 of 304 patients with low back pain, torticollis, arthritis and other conditions associated with skeletal muscle spasm. Moderate relief was obtained in an additional group of 28 patients. Trancopal is a true "tranquilaxant" because "It combines the properties of tranquilization and skeletal muscle relaxation with no concomitant change in normal consciousness."4 Side effects have been few and minor - and in no case were they serious enough to warrant discontinuing the use of Trancopal.1 "Trancopal is exceptionally safe for clinical use."3

relieves anxiety and tension so the patient can carry on



Trancopal is also an effective agent for patients in anxiety and tension states. According to recent clinical reports, \$^{1,5}\$ it calms the patients but allows them to continue their work or other activity. Indeed, Lichtman found that his patients with anxiety "... were in many instances able to continue their normal activities where previously they had been considerably restricted ..." He observed that Trancopal brought good to excellent relief to 114 of 120 patients in anxiety states. Ganz, \$5\$ who noted good to excellent relief in 32 of 35 patients with globus hystericus, and in his entire series of 100 patients in anxiety or tension states, comments: "Chlormethazanone [Trancopal], by relieving the psychogenic symptoms, allows the patient to use his energies in a more productive manner in overcoming his basic problems." \$\frac{5}{5}\$

Relieves dysmenorrhea — Trancopal has also proved to be a useful medication in the treatment of patients with dysmenorrhea, 1,4,6 probably producing its effect "... by means of a combination of muscle relaxant and tranquilizing actions."

Indications

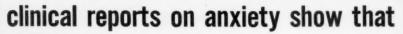
Musculoskeletal disorders		Psychogenic disorders	
Low back pain (lumbago)	Ankle sprain, tennis elbow	Dysmenorrhea	
Neck pain (torticollis)	Osteoarthritis	Premenstrual tension	
Bursitis	Rheumatoid arthritis	Anxiety and tension states	
Fibrositis	Disc syndrome	Asthma	
Myositis	Postoperative muscle spasm	Angina pectoris	
		Alcoholism	

Dosage: Adults, 100 or 200 mg. orally three or four times daily. Relief of symptoms generally occurs promptly and lasts from four to six hours.

How Supplied: Trancopal Caplets® 100 mg. (peach colored, scored) and 200 mg. (green colored, scored), bottles of 100.

References: 1. Lichtman, A. L.: Kentucky Acad. Gen. Pract. J. 4:28, Oct., 1958. 2. Mullin, W. G., and Epifano, Leonard: Am. Pract. & Digest Treat. 10:1743, Oct., 1959. 3. Gruenberg, Friedrich: Current Therap. Res. 2:1, Jan., 1960. 4. Shanaphy, J. F.: Current Therap. Res. 1:59, Oct., 1959. 5. Ganz, S. E.: J. Indiana M. A. 52:1134, July, 1959. 6. Stough, A. R.: J. Oklahoma M. A. 52:575, Sept., 1959.

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Trancopal Trancopal

quiets the psyche but leaves the patient alert

"...TRANCOPAL is a most valuable drug for relieving tension, apprehension and various psychogenic states." 5



Schering

allergic to animals? in any case, for allergic symptoms, the most widely used antihistamine is CHLOR-TRIMETON.

5-475



There's hardly a reason *not* to prescribe Doriden for every patient who needs a good night's sleep.

CIBA SUMMIT, N. J.



Why you can prescribe DORIDEN® for nearly all insomnia patients

Because it acts smoothly, because it is metabolized rapidly, because it apparently has no toxic effect on the liver or kidney, Doriden is indicated in many cases where barbiturates are unsuitable. With Doriden, for example, you can prescribe a good night's sleep for patients sensitive to barbiturates, elderly patients, patients with low vital capacity and poor respiratory reserve, and those unable to take barbiturates because of renal or hepatic disease. And Doriden patients awake refreshed -except in rare cases, there's no morning "hangover." SUPPLIED: Tablets, 0.5 Gm., 0.25 Gm., 0.125 Gm.

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Coming next month . . .

- Vertebral Orthopaedic Conditions and Their Conservative Treatment
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- Sexual Potency and the Physician
 By Alex L. Finkle, M.D., Department of
 Surgery, Division of Urology, University of
 California School of Medicine, San Francisco, California.
- Principles of Dermatologic Diagnosis
 By Morris Leider, M.D., Associate Director,
 Dermatology and Syphilology, New York
 University Post-Graduate Medical School,
 New York, New York.
- A Recent Advance in the Control of Cholesterol Metabolism
 By Wilbur Oaks, M.D., Dept. of Internal Medicine; Philip Lisan, M.D., Instructor, Department of Internal Medicine; and John H. Moyer, III, M.D., Professor and Head of Division and Department of Internal Medicine, Hahnemann Medical College, Philadelphia, Pennsylvania.
- Institutional Care of the Long-Term Patient
 By Herbert Notkin, M.D., Medical Director, Onondaga County, Department of Public Health, Syracuse, New York.
- The Attitude of the Physician Towards Athletics
 By M. L. Trewin, M.D., Flint, Michigan.
- Is It Migraine?
 By Harold J. Feldman, M.D., Livingston, New Jersey.
- Griseofulvin in the Management
 of Fungus Infections
 By Lawrence Frank, M.D., Division of Dermatology, Department of Medicine, College
 University of New York, Brooklyn, N. Y.
- Aging in Virginia
 By John P. Lynch, Chairman of Geriatrics
 Committee, Richmond Academy of Medicine,
 Richmond, Virginia.



Coroner's Corner

A beautiful imported German apothecary jar will be sent to each contributor of an unusual case report.

An 18-year-old white male was admitted to the hospital in critical condition following an automobile accident. The history states that he was sitting in the rear seat of an automobile, and hit the back of the front seat, developing a facial ecchymosis. He was hospitalized, and the following morning was found to be in good physical and mental condition, with no abnormalities identified except the ecchymosis around both eyes. He was discharged, to be followed by the doctor.

The following evening, however, the boy was found in bed and unresponsive. He was brought to the hospital, comatosed. No physical findings were identified, with the exception of the ecchymosis around the eyes.

Skull x-rays were negative. Blood pressure was 130/96 mm. Hg., pulse 80 per minute and regular. During the night, however, the patient's temperature suddenly rose to 105 F rectally, with a blood pressure of 200/70 mm. Hg. The possibility of a subdural hematoma was considered and the patient was taken to surgery. Multiple burr holes were done, with no evidence of any collection of blood, fluid or intracranial disease. Shortly after this the boy expired.



The autopsy findings were confined to the brain. The large areas of ecchymosis involving the orbital areas were identified, as was the surgical site of the four burr holes. The skull showed no evidence of fractures. There was, however, a cloudy fluid present which was especially prominent around the brain stem. Bacteriologic examination showed gram positive diplococci which were identified by the usual methods as pneumococci. Microscopic examination of the central nervous system showed a diffuse infiltration of neutrophils in the meninges.

E. A. BRUCKER, M.D. Madison, Wisconsin



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Growth with

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A single dose of Cynal provides not only generous amounts of vitamin B_{12} but also vitamins B_1 and B_6 as valuable adjuncts to absorption² and body metabolism.

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5-fold ORAL vitamin B₁₂ absorption...plus tasty "Cherro-Chew" tablets which dissolve on the tongue or are easily crushed on a spoon







Cynal is prepared in "Cherro-Chew" tablets for easy and pleasant administration. Soft, tasty cherry-flavored tablets can be dissolved on the tongue, chewed or swallowed whole. For liquid administration, crushed Cynal tablets dissolve readily in water.

EACH SOFT TABLET CONTAINS:

Thiamine mononitrate (vitamin B_1) .						10 mg.
Vitamin B_{12} (as L. B. $12*$)						25 mcg.
Pyridoxine hydrochloride (vitamin B ₆)						5 mg.
*Lloyd's absorption-enhancing complex of vitamin B ₁₂	(B ₁₂	from	Cobo	lamin	Cor	ncentrate).

DOSE: One tablet per day.

SUPPLIED: Bottles of 50 tasty Cherro-Chew tablets.

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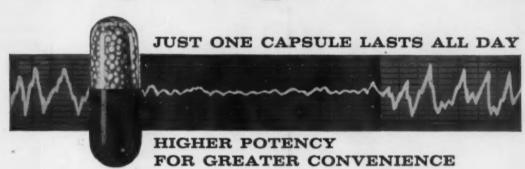
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1. Chow, B. F.: Gerontologia 2:213-221, 1958.
2. Chow, B. F., et al.: Am. J. Clin. Nutrition 6:386, 1958.

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- •relieves both mental and muscular tension without causing depression
- does not impair mental efficiency, motor control, or normal behavior

Usual dosage: One capsule at breakfast, one capsule with evening meal

Available: Meprospan-400, each blue eapsule contains
400 mg. Miltown (meprobamate)
Meprospan-200, each yellow capsule contains
200 mg. Miltown (meprobamate)

Both potencies in bottles of 30.

WALLACE LABORATORIES, New Brunswick, N. J.

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another patient with hypertension?



indicated in all degrees of hypertension

effective by itself in most hypertensives

HYDRODIURIL with RESERPINE

HYDROPRES can be used:

- alone (In most patients, HYDROPRES is the only antihypertensive medication needed.)
- as basic therapy, adding other drugs if necessary (should other antihypertensive agents need to be added, they can be given in much lower than usual dosage so that their side effects are often strikingly reduced.)
- as replacement therapy, in patients now treated with other drugs (In patients treated with rauwolfia or Its derivatives, HYDROPRES can produce a greater antihypertensive effect. Moreover, HYDROPRES is less likely to cause side effects characteristic of rauwolfia, since the required dosage of reserpine is usually less when given in combination with HydroDIURIL than when given alone.)

HYDROPRES-25

25 mg. HydroDIURIL, 0.125 mg. reserpine. One tablet one to four times a day.

HYDROPRES-50

50 mg. HydroDIURIL, 0.125 mg. reserpine. One tablet one or two times a day.

If the patient is receiving ganglion blocking drugs or hydralazine, their dosage must be cut in half when HYDROPRES is added.

For additional information, write Professional Services, Merck Sharp & Dohme, West Point, Pa.



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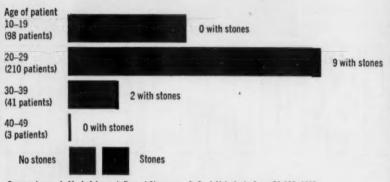
SHYDROPRES AND HYDRODIURIL ARE TRADEMARKS OF MERCK & CO., INC.

AN AMES CLINIQUICK

CLINICAL BRIEFS FOR MODERN PRACTICE

Is pregnancy an etiological factor in the development of gallstones?

No definite relationship between pregnancy and the formation of gallstones was demonstrated in a recently concluded clinical study. Of 352 asymptomatic pregnant women studied by interview, clinical history, and cholecystography, only 11 (3.1 per cent) had gallstones.



Source: Large, A. M.; Lofstrom, J. E., and Stevenson, C. S.: A.M.A. Arch. Surg. 78:966, 1959.

When functional GI distress indicates medical management...

DECHOLIN® with BELLADONNA (dehydrocholic acid with belladonna, AMES)

provides true hydrocholeresis plus reliable spasmolysis

In medical management, ... recommended for patients with a clinical history of biliary tract disease when gallbladder disease has not been confirmed.*

Best, R. R.: Mod. Med. 25:264 (March 15) 1957.

Available: Decholin/Belladonna tablets (dehydrocholic acid, Ames) 3% gr. (250 mg.) and extract of belladonna 1/6 gr. (10 mg.). Bottles of 100 and 500.

DECHOLIN® for hydrocholeresis

Available: DECHOLIN tablets: (dehydrocholic acid, AMES) 3¾ gr. (250 mg.). Bottles of 100, 500, and 1,000.



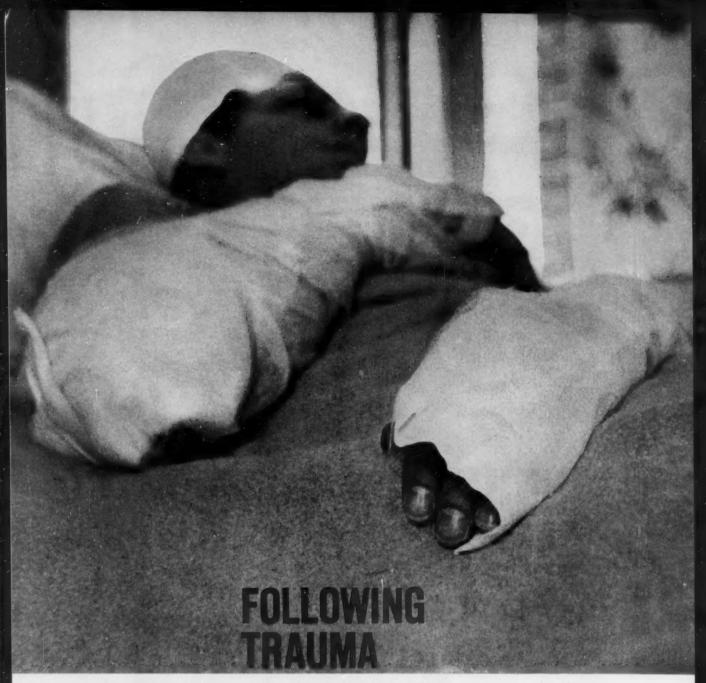


FREQUENTLY INDICATED FOLLOWING ACCIDENTS

PARAFLEX® FOR RELIEF OF PAIN-

When accidents result in sprains or strains, Paraflex reduces painful spasm promptly. Effective in a wide variety of rheumatic, arthritic and orthopedic disorders, Paraflex relieves pain, improves mobility and facilitates rehabilitation. Side effects seldom occur and are rarely severe enough to require discontinuation of therapy. \square *Average Dosage:* Two tablets t.i.d. or q.i.d. \square *Supplied:* Tablets, scored, orange, bottles of 50. Each tablet contains Paraflex, 250 mg.

McNEIL LABORATORIES, INC · PHILADELPHIA 32, PA.



nutritional therapy in the "therapeutic" jar

STRESSCAPS helps meet increased metabolic requirements in burns, fractures and wounds. Abnormal levels of water-soluble vitamins are suddenly required with other nutritional factors—just as the stress reaction induces severe depletion. and alters metabolism. High potency supplements must be administered. as provided by STRESSCAPS, to support rapid recovery and prevent general complications of metabolic failure. Of "therapeutic" importance to the out-patient, the attractive STRESSCAPS jar is a convenient reminder of daily dosage...insuring adequate intake over the therapeutic course.

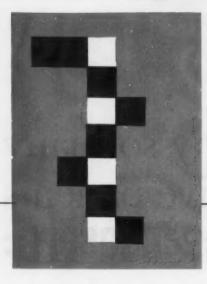
Each capsule contains: Thiamine Mononitrate (B_1) 10 mg., Riboflavin (B_2) 10 mg., Niacinamide 100 mg., Ascorbic Acid (C) 300 mg., Pyridoxine HCl (B_d) 2 mg., Vitamin B_{12} 4 mcgm., Folic Acid 1.5 mg., Calcium Pantothenate 20 mg., Vitamin K (Menadione) 2 mg. Average dose: 1-2 capsules daily.

1. Richardson, M. E.: <u>J. Am. Osteop. A.</u> 87:562 (May) 1958. 2. Mason, M. L.: <u>Northwest Med.</u> 57:1439 (Nov.) 1958. 3. Coleman 8. 8.: <u>Am. J.</u> <u>Surg.</u> 97:43 (Jan.) 1959.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York



STRESSCAPS Stress Formula Vitamins Loderie



Medical Teasers

A challenging crossword puzzle for the physician (Solution on page 166a)

ACROSS

- 1. Be dull or spiritless

- Contains skin disease
 Half (Prefix)
 Proprietary food containing no iron and rich milk albumin
- 15. Swelling
- 16. Vomiting (Comb. form)
 17. Suffix indicating compound of sugar and
- other substance

 18. Plates, used in open reduction of fractures
- 19. Monetary unit of Italy (PI.)
- 20. Dwarfism
- 22. English dentist whose name is associated with the incremental lines of dentin
- 24. Kidney (Comb. form)
- 25. Pertaining to Denmark (Comb. form) 26. Stage of a disease
- 29. Screenings
- 33. Suborder of Hemiptera
- 36. Crude metal
- Persian poet
- 38. Girl's name
- 39. Scrutinize
- 40. Musical instrument
- (Abbr.) 41. Inflammation of fibrous
- covering of bone
- 43. Resembling hardened forewing of an insect 45. Useful
- 46. Borders
- 47. Proprietary disinfectant 49. Source of oil of benne 52. Remedy for pain 56. Derived from ammonia

- 57. Interdiction
- 59. --, pain (Span.) 60. Class occurring with greatest frequency in a
- series of variables 61. King of Moab, oppressor of Israelites
- 62. Knee
- 63. The lower lateral nasal cartilage

- 20 23 25 26 27 28
- 64. Long and slender
- 65. Affirmatives

DOWN

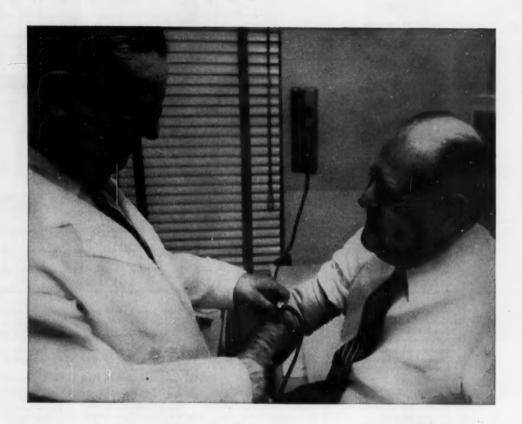
- 1. Muscle
- 2. Bone (Pl.)
- 3. Albuminoid substance
- in pus 4. Signar
- 5. Paronychia
- 6. Canadian pathologist (1861-1926): theory explaining heredity 7. Vein (Lat.)

- Leg—, bean
 Genus of lauraceous tree of North America, the root bark of which is aromatic, stimulant, diaphoretic, and carminative

- 10. Guardian of the oracle of Zeus at Dodona (Gr. myth.)
- II. Exude
- 12. Lake or pool
- 13. Tubular passage
- 21. Prophet
- 23. cid, Aluminum Hydroxide is one
- 25. Prescribed rules for eating (Comb. form)
- 26. Any subjective sensation, as of light in color
- 27. Pertaining to the blood 28. Failure of muscular co-
- ordination (var.) 29. Sedate
- 30. Night (Comb. form) 31. Chalice
- 32. Faculty of perception 34. Instrument for testing
- the purity of oil -talsis, intestinal

- propulsive movements
- 39. Sum of knowledge regarding food, diet, nutrition
- 41. Formally precise 42. —remia, Francis' dis-
- 0850
- Dissecting instrument
- 47. Fillet worn around hair 48. Lack of normal strength
- 49. -ritan, one who is compassionate to a fel-
- low in distress 50. Emollient mineral
- 51. Genus of tropical herbs
- yielding demulcents
 52. Competent
- 53. Delight 54. Small island north of Scotland, early center of Celtic church
- 55. The shank
- 58. Grow older

Why so many hypertensive patients prefer **Singoserp**:



2/2702MK



MEDICAL TIMES

It spares them the usual rauwolfia side effects

FOR EXAMPLE: "A clinical study made of syrosingopine [Singoserp] therapy in 77 ambulant patients with essential hypertension demonstrated this agent to be effective in reducing hypertension, although the daily dosage required is higher than that of reserpine. Severe side-effects are infrequent, and this attribute of syrosingopine is its chief advantage over other Rauwolfia preparations. The drug appears useful in the management of patients with essential hypertension."

Almost all side effects relieved when Singoserp was substituted for other rauwolfia derivatives in 24 patients^a

Side Effects	Incidence with Prior Rauwolfia Agent	Relieved by Singoserp	Not Relieved*
Depression	11	10	1
Lethargy or fatigue	5	5	0
Nasal congestion	7	7	0
Gastrointestinal disturbances			2
Conjunctivitis	1	1	0

^{*}Two of the 24 patients had two troublesome side effects.

Singoserp[®] (syrosingopine CIBA)

First drug to try in new hypertensive patients

First drug to add in hypertensive patients already on medication

Supplied: Singoserp Tablets, 1 mg. (white, scored); bottles of 100.

Complete information available on request.

Herrmann, G. R., Vogelpohl, E. B., Hejtmancik, M. R., and Wright, J. C.: J.A.M.A. 169:1609 (April 4) 1959.
 Bartels, C. C.: N. E. J. Med. 261:785 (Oct. 15) 1959.



Conception control becomes a matter of special concern six to eight weeks post partum, when the new mother looks to you for advice on the best way to plan the balance of her family. Reliable conception control can be virtually assured with the diaphragm and jelly method, at least 98 per cent effective.¹

Now-cushioned comfort

... two ways

Your patient experiences special physical comfort when you prescribe either the standard RAMSES® Diaphragm or the new RAMSES BENDEX,® an arc-ing type diaphragm.

The regular RAMSES Diaphragm, suitable for most women, is made of pure gum rubber, with a dome that is unusually light and velvet smooth. The rim, encased in soft rubber, is flexible in all planes permitting complete freedom of motion. For those women who prefer or require an arcing type diaphragm, the new RAMSES BENDEX embodies all of the superior features of the conventional RAMSES Diaphragm, together with the very best hinge mechanism contained in any arcing diaphragm. It thus affords lateral flexibility to supply the proper degree of spring tension without discomfort.

RAMSES, BENDEX, and "TUK-A-WAY" are registered trademarks of Julius Schmid, Inc.

Active agent, dodecaethyleneglycol monolaurate 5%, in a base of long-lasting barrier effectiveness.

For added protection - RAMSES

"10-Hour" Vaginal Jelly*

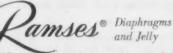
RAMSES Jelly is uniquely suited for use with either type of RAMSES Diaphragm. It is by design not static, but flows freely over the rim and surface of the diaphragm to add lubrication and to form a spermtight seal over the cervix, which is maintained for ten full hours after insertion. It is nonirritating and nontoxic.

You can now prescribe a complete unit for either type of diaphragm. RAMSES "TUK-A-WAY" Kit #701 contains the regular RAMSES Diaphragm with introducer and a 3-ounce tube of RAMSES Jelly; RAMSES "TUK-A-WAY" Kit #703 contains the RAMSES BENDEX Diaphragm and

Jelly tube. Each kit is supplied in an attractive plastic zippered case, beautifully finished inside and out. Both types are now available at key prescription pharmacies.



Reference: 1. Tietze, C.: Proceedings, Third International Conference Planned Parenthood, 1953.



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Helps prevent vitamin-mineral deficiencies by providing comprehensive nutritional supplementation. Just one capsule daily supplies therapeutic doses of 9 important vitamins plus significant quantities of 11 essential minerals and trace elements.

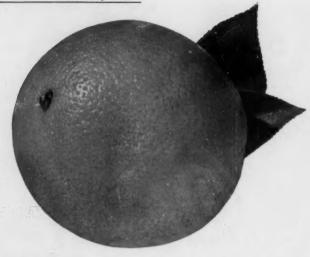
Each MYADEC Capsule contains: VITAMINS: Vitamin B_{12} crystalline—5 mcg.; Vitamin B_{2} (riboflavin)—10 mg.; Vitamin B_{0} (pyridoxine hydrochloride)—2 mg.; Vitamin B_{1} mononitrate—10 mg.; Nicotinamide (niacinamide)—100 mg.; Vitamin C (ascorbic acid)—150 mg.; Vitamin A—25,000 units; Vitamin D—1,000 units; Vitamin E (mixed tocopheryl acetates)—5 I.U.; MINERALS (as inorganic salts): Iodine—0.15 mg.; Manganese—1.0 mg.; Cobalt—0.1 mg.; Potassium—5.0 mg.; Molybdenum—0.2 mg.; Iron—15.0 mg.; Copper—1.0 mg.; Zinc—1.5 mg.; Magnesium—6.0 mg.; Calcium—105.0 mg.; Phosphorus—80.0 mg. Bottles of 30, 100, 250, and 1,000.

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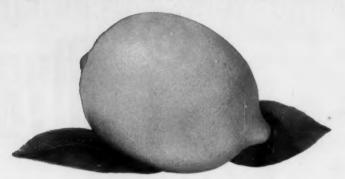
when he sleeps through breakfast -and works through lunch...



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Key to effective treatment of gastro-intestinal disorders



Diarrheas...dysenteries...many other intestinal disorders...respond quickly and favorably to treatment with pharmaceutical specialties whose key ingredient is a citrus pectin or derivative in adequate dosage.

Exchange Brand Pectin N.F. will provide a dependable therapeutic dosage of galacturonic acid-the recognized detoxicating factor in the pectin.

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is the answer to the question "What best relieves the coughs and complications associated with the allergic manifestations of respiratory illness?"

When you prescribe POLARAMINE Expectorant, newest member of the Schering POLARAMINE Family, you treat your patient with a compound containing an antihistaminic which incorporates the very latest developments in antihistamine research. This is POLARAMINE (dexchlorpheniramine maleate), of greater therapeutic effectiveness, safety, and freedom from side effects than other antihistaminics... and at lower dosages.

Because of this active, rapid-acting antihistamine factor, POLARAMINE Expectorant treats thoroughly and effectively the allergic components and manifestations of respiratory illness. Congested, delicate membranes of the respiratory tract are soon returned to normal.

By augmenting respiratory tract fluid output, the two other components of POLARAMINE Expectorant—d-isoephedrine, the orally effective bronchodilator and decongestant, and glyceryl guaiacolate, the superior expectorant—relieve unproductive coughing and facilitate expectoration.

Note also that the d-isoephedrine component complements the antihistaminic effect of POLARAMINE . . . helps provide subjective and objective relief of respiratory distress. And POLARAMINE Expectorant is more delicious than you expect—a new, really different flavor.

Each teaspoonful (5 cc.) of POLARAMINE Expectorant contains 2 mg. POLARAMINE, 20 mg. d-isoephedrine sulfate, and 100 mg. glyceryl guaiacolate. Dosage: Adults, 1 or 2 teaspoonfuls, 3 or 4 times daily. Children, ½ or 1 teaspoonful, 3 or 4 times daily. Supply: 16 oz. bottles.

A form for every need: POLARAMINE REPETABS, 6 mg., bottles of 100 and 1000/POLARAMINE REPETABS, 4 mg., bottles of 100 and 1000/Tablets, 2 mg., bottles of 100 and 1000/POLARAMINE Syrup, 2 mg./5 cc., bottles of 16 oz.

a new member of the Lederle vitamin family...new cherry-flavored ... for infants and children



- Comprehensive multivitamin supplement designed for growing infants and active youngsters.
- Refreshing cherry taste, a flavor-favorite with children of all ages . . . no unpleasant aftertaste.
- Convenient to give—as syrup from the new pushbutton dispenser, or as pediatric drops from the 50 cc. bottle with handy calibrated dropper.

KEEPS them growing ... and going ... better!

VI-TYKE Syrup in 12 oz. dispenser can ... no spilling-no mess.

Each tsp. (5 cc.) daily dose contains:

Vitamin A
(Palmitate) 3,000 U.S.P. Units
Vitamin D 800 U.S.P. Units
Thiamine HCl (B ₁) 1.5 mg.
Riboflavin (B2) 1.5 mg.
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Ascorbic Acid (C) 40 mg.
Vitamin B ₁₂ 3 mcgm.
Niacinamide 10 mg.
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Methylparaben 0.08%
Propulparaben 0.02%

VI-TYKE®

Liquid Multivitamins Lederle

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York

Lederle



What's Your Verdict?

Edited by Ann Ledakowich, Member of the Bar of New Jersey

A retired workman entered the hospital for cataract surgery on the advice of his physician, an eye specialist. He was handed a typewritten form of instructions prepared by his physician. From these instructions he learned something of the nature of cataract surgery, and with this little knowledge came a sense of regret over his consent to such an operation. He consulted the resident physician who thereupon conducted a test of his eyes which showed 20/40 vision in the right eye and 20/30 in the left. The patient then departed for home.

From the security of his home the patient advised his physician of his change of heart. The physician expressed surprise and cautioned him that he risked blindness without an operation. He told him to come to the office, but the patient declined all invitations.

The physician was sued for fraud and deceit. The complaint alleged that the physician knowingly misrepresented to his patient the need for surgery to prevent blindness in order that he might collect the fee for such operation.

At the trial six expert medical witnesses testified that cataract surgery was not necessary in this case and would only result in a substantial loss of vision to the patient. They were of the opinion that no honest physician would perform such an operation under the circumstances.

The patient further showed that since he left the hospital he appeared before the driver's

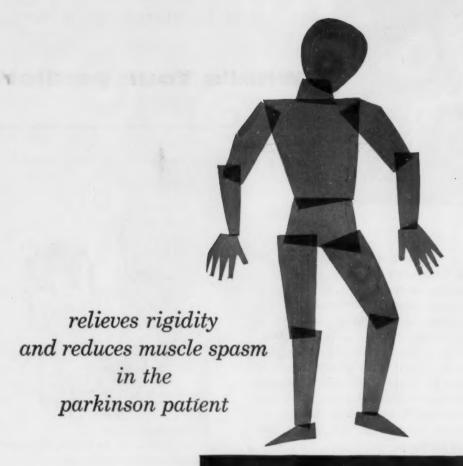


license examiner, took the usual eye test, passed it, and still retained his license.

The defense rests on the conflict between two opposing schools of thought in cataract surgery. One group of physicians will not operate until the vision is 20/70 or less. An opposing group, which includes the defendant, do not believe in waiting until the vision has become so impaired. When the defendant examined his patient, his vision was 20/60 minus. A person's vision varies from one time to another; there could be a variation in the same day in different offices from 20/40 to 20/60. On the patient's own admission, after the seed of distrust had been sown in his heart in the hospital, he could then see better than he had ever seen before.

The trial court rendered judgment for the physician, and the patient took an appeal. How would you decide the appeal?

Answer on page 202a.



PHENOXENE

a new synthetic compound

"Chlorphenoxamine (Phenoxene) exerts a gentle yet potent action . . . a muscle relaxant action also an energizing and stimulating action, without induction of excitement or agitation. Patients are able to move faster and more freely and with greater strength and longer endurance. It helps to loosen rigid muscles, and it successfully counteracts akinesia, tiredness, and weakness."*

*Doshay, L. J., and Constable, K.: Treatment of Paralysis Agitans with Chlorphenoxamine Hydrochloride, J.A.M.A. 170:37 (May 2) 1959.

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asthmatic...but symptom-free Prophylactic use of Tedral helps your bronchial asthma patients breathe normally—live actively—avoid the fear and embarrassment of disabling attacks. 1 or 2 Tedral tablets q.4.h. provide up to 4 hours' freedom from congestion and constriction. Or therapeutically, when stress brings symptomatic flare-ups, prescribe 1 Tedral tablet at the *first* sign of attack.

TEDRAL the dependable antiasthmatic

WARNER

Impetigo?

dual antibiotic therapy gives 88% cure rate* in a wide variety of common skin infections

Arch: Bermat, & Syph. 69:366, 1954.

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BACIMYCIN Ointimerit





100 Gm hospital la oz, tubes for ophthalm BACIMYCIN
with Hydrocortison
18-oz. tube with

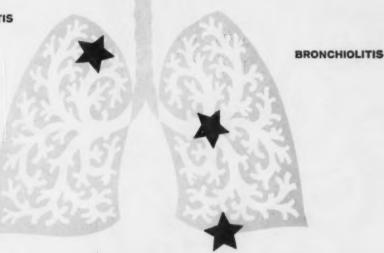
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BACTERIAL PNEUMONIAS



FEWER TREATMENT FAILURES IN RESPIRATORY TRACT INFECTIONS

"...outstanding advantages over many previously accepted chemotherapeutic and antibiotic agents"

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effective perorally against the majority of common infections caused by pathogenic bacteria including the antibiotic-resistant staphylococci

ALTAFUR is available in tablets of 250 mg. (adult) and 50 mg. (pediatric), bottles of 20 and 100.

1. Lysaught, J. N., and Cleaver, W.: Proceedings of the Detroit Symposium on Antibacterial
Therapy (Michigan and Wayne County Academies of General Practice, Detroit, Sept. 12, 1959).

THE NITROFURANS ... a unique class of antimicrobials

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The more satisfied patient will be motivated to follow your instructions for regular use. Recommend the KOROMEX COMPACT to your patients . . make it possible for them to determine whether Jelly or Cream is best suited to their individual requirements.

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contains:

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Sterazolidin°

brand of prednisone-phenylbutazone

a well balanced therapy in all forms of rheumatic disorder

The combined action of phenylbutazone and prednisone in Sterazolidin results in striking therapeutic benefit with only moderate dosage of both active agents.

In long-term therapy of the major forms of arthritis, control is generally maintained indefinitely with stable uniform dosage safely below that likely to produce significant hypercortisonism.

In short-term therapy of more acute conditions Sterazolidin provides intensive anti-inflammatory action to assure early resolution and recovery.

Sterazolidin®, brand of prednisonephenylbutazone: Each capsule contains prednisone, 1.25 mg.; Butazolidin® (brand of phenylbutazone), 50 mg.; dried aluminum hydroxide gel, 100 mg.; magnesium trisilicate, 150 mg.; bomatropine methylbromide, 1.25 mg. Bottles of 100.

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Helps stop overeating

CURBS APPETITE ... RELIEVES DIET TENSIONS

This new anorectic gives you dextroamphetamine to curb your patient's appetite. It also gives you Miltown to relieve the tensions of dieting which undermine her will power.

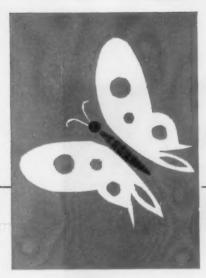
In prescribing Appetrol, you will find that your patient's bad eating habits are considerably improved—and that she will stay on the diet you prescribe.

Appetrol P DEXTRO-AMPHETAMINE + MILTOWN

Usual dosage: 1 or 2 tablets one-half to 1 hour before meals.

Each tablet contains:
5 mg. dextro-amphetamine sulfate and
400 mg. Miltown (meprobamate, Wallace).

Available: Bottles of 50 pink, scored tablets. WALLACE LABORATORIES / New Brunswick, N. J.



AFTER HOURS

Photographs with brief description of your hobby will be welcomed. A conversation-piece desk ornament . . . an imported, wooden (handcarved) physician figurine . . . will be sent for each accepted contribution.

Elizabeth B. Parker, M.D., of Hollywood, California, has had outstanding success with her hobby, hybridizing chrysanthemums. She became interested in the flowers in 1952 when she and her husband planted chrysanthemum beds next to retaining walls on their property.

In 1958 she received Plant Patent No. 1773 for the first chrysanthemums ever patented for fragrance. Instead of the usual "woody" scent associated with ordinary mums, this new line — named FRAGRAMUM* — exudes a fragrance like that of jasmine.

Dr. Parker is now working to carry fragrance into new hybrids, and reports success in about 90 percent of all inbreedings. She has developed continuity and variation in fragrance as well as variation in color and form in the new varieties.

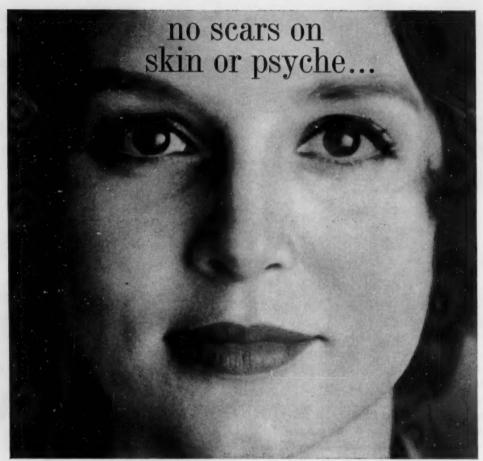
The hobby is shared with the doctor's husband, Dr. Hugh D. Wilson. He prepares planting mix for seeds, the garden beds for planting, and takes color photos for comparative study.



Hollywood Citizen News Photo

Dr. Parker, in her California garden, displays the first plant patent ever issued for fragrance in chrysanthemums.

^{*} Trademark



RESULIN treats the dual problem

RESULIN treats your patient's dual acne problem by effectively hiding the "ugly bumps" while it treats the skin. Applied directly to the blemishes, RESULIN concentrates the multiple corrective benefits of resorcin and sulfur at the affected spots.

RESULIN dries and stimulates the skin, provokes moderate exfoliation, and guards against infection. Antipruritic action helps keep fingers away from the face. Your young patients will be grateful for their improved appearance from the first application of RESULIN. Samples and literature available on request.

RESULIN® compounds are indicated in all acne conditions.
RESULIN Lotion, 4 fl. oz. bottles, Blonde and Brunette.
For severe acne.

RESULIN Lotion Modified, 4 fl. oz. bottles, Blonde and Brunette. For mild acne or tender skin.

RESULIN Ointment, 1½ oz. tubes, Blonde and Brunette. For dry-skin, comedo-type acne.

RESULIN Soap with Salicylic acid. 4 oz. cakes. For thorough medicated cleansing in all cases.

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True broad-spectrum coverage... proved clinical efficacy

CHLOROMYCETIN®

OUTSTANDINGLY EFFECTIVE AGAINST A WIDE RANGE OF PATHOGENS

IN VITRO SENSITIVITY OF GRAM-POSITIVE ORGANISMS TO CHLOROMYCETIN AND TO THREE OTHER BROAD-SPECTRUM ANTIBIOTICS*

CHLOROMYCETIN (254 strains)	89%
ANTIBIOTIC A (260 strains)	79%
ANTIBIOTIC B (261 strains)	77%
ANTIBIOTIC C (255 strains)	73%

IN VITRO SENSITIVITY OF GRAM-NEGATIVE ORGANISMS TO CHLOROMYCETIN AND TO THREE OTHER BROAD-SPECTRUM ANTIBIOTICS*

CHLOROMYCETIN (244 strains)		62%
ANTIBIOTIC A (245 strains)	46%	
ANTIBIOTIC B (237 strains)		55%
ANTIBIOTIC C (236 strains)	50	%

^{*}Adapted from Leming, B. H., Jr., & Flanigan, C., Jr., in Welch, H., & Marti-lbañez, F.: Antibiotics Annual 1958-1959, New York, Medical Encyclopedia, Inc., 1959, p. 414.

CHLOROMYCETIN is a potent therapeutic agent and, because certain blood dyscrasias have been associated with its administration, it should not be used indiscriminately or for minor infections. Furthermore, as with certain other drugs, adequate blood studies should be made when the patient requires prolonged or intermittent therapy.

PARKE-DAVIS

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CHLOROMYCETIN (chloramphenicol, Parke-Davis) is available in various forms, including Kapseals® of 250 mg., in bottles of 16 and 100.

NO SPRAIN, NO STRAIN, OR LOW BACK PAIN can resist the rapid relaxant relief of

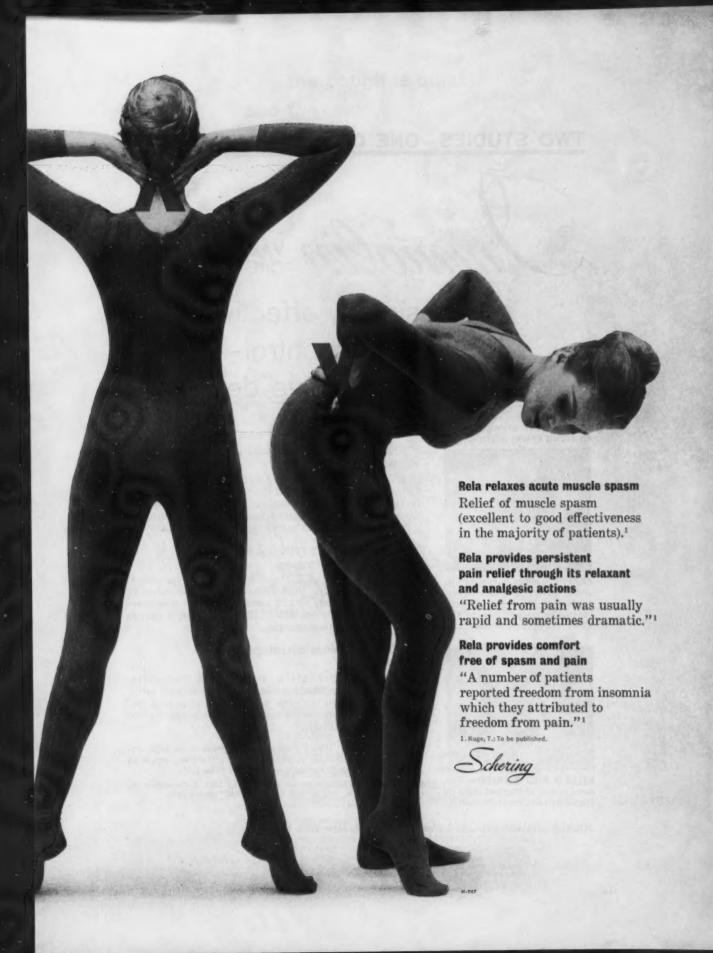
RELA

CARISOPRODOL

RELA—SCHERING'S MYOGESICX RELAXES MUSCLE TENSION FOR MORE ADEPT MANAGEMENT OF BOTH SPASM AND ITS PAIN

Rela is most useful in the areas where narcotic analgesics are unwarranted and where salicylates are inadequate. Its muscle-relaxant properties are dependable yet significantly free of the limitations or problems often associated with other relaxants.

XMYOGESIC: MUSCLE RELAXANT

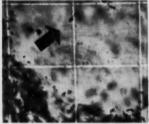


TWO STUDIES-ONE CONCLUSION:

Immolin VAGINAL CREAM-JEL

offers simple, effective conception control— without an occlusive device

Works on new principle to inhibit sperm migration



TRAPPED—This highly motile, viable sperm becomes nonre-productive the instant it contacts the outer edge of the IMMOLIN Cream-Jel matrix.



KILLED AND BURIED—The dead sperm is trapped deep in the IMMOLIN Cream-Jel matrix.

Study 1. Pregnancy rate: 2.01 per hundred woman-years of exposure

In a 28-month study totaling 1792 patient-months, Dr. Leopold Z. Goldstein' found that of 101 young, married, fertile women who relied exclusively on IMMOLIN Cream-Jel, only 3 unplanned pregnancies occurred — just 2.01 per hundred woman-years of exposure.

Study 2. Pregnancy rate: 3.2 per hundred woman-years of exposure

A pregnancy rate of 3.2 woman-years of exposure is now reported by Drs. Ruth Finkelstein and Raymond B. Goldberg² in a study of 176 women who for three years relied exclusively on IMMOLIN Cream-Jel, a period totaling 3354 patient-months.

IMMOLIN combines advantages of cream and jelly

Snowy white, dry, static and free of messiness, IMMOLIN Cream-Jel combines the soft, pleasant emollience of a cream with the smoothness of a jelly, yet minimizes overlubrication and leakage—increases motivation to use faithfully.

HOW SUPPLIED: #900 Package — 75 gram tube with improved measured-dose applicator and attractive, zippered plastic case. #905 Package — 75 gram tube only.

Goldstein, L. Z.: Obst. & Gynec. 19:133 (Aug.) 1957.
 Finkelstein, R., and Goldberg, R. B.: Arn. J. Obst. & Gynec. 78:657 (Sept.) 1959.
 IMMOLIN is a registered trade-mark of Julius Schmid, Inc.

JULIUS SCHMID, INC., 423 West 55th Street, New York 19, N.Y.

the cough is quiet and the



thanks to

PHENERGAN

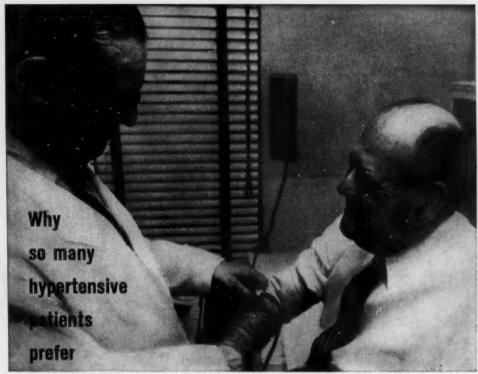
EXPECTORANT

Promethazine Expectorant, Wyeth With Codeine Plain (Without Codeine) expectorant · antihistaminic sedative · topical anesthetic

non-narcotic formula too...
codeinelike antitussive action without codeine's side-effects.
Pediatric PHENERGAN EXPECTORANT (Promethazine Expectorant with Dextromethorphan, Wyeth)

For further information on prescribing and administering PHENERGAN Expectorant see descriptive literature, available on request.

Wyeth Laboratories Philadelphia 1, Pa.



Singoserp:

It spares them from the usual rauwolfia side effects

FOR EXAMPLE: "A clinical study made of syrosingopine [Singoserp] therapy in 77 ambulant patients with essential hypertension demonstrated this agent to be effective in reducing hypertension, although the daily dosage required is higher than that of reserpine. Severe side-effects are infrequent, and this attribute of syrosingopine is its chief advantage over other Rauwolfia preparations. The drug appears useful in the management of patients with essential hypertension."*

*Herrmann, G. R., Vogelpohl, E. B., Hejtmancik, M. R., and Wright, J. C.: J.A.M.A. 169:1609 (April 4) 1959.



(syrosingopine CIBA)

First drug to try in new hypertensive patients

First drug to add in hypertensive patients already on medication

SUPPLIED: Singoserp Tablets, 1 mg. (white, scored); bottles of 100. Samples available on request. Write to CIBA, Box 277, Summit, N. J.

8 J 2887W8

Complete information available on request.

CIBA



Who Is This Doctor?

Identify the famous physician from clues in this brief biography

Born in 1703, this man was descended from a family of surgeons. He received his education at Lyons and later, in Paris, where he was a pupil at the Hotel Dieu.

After becoming a doctor he was appointed personal physician to the Prince Bishop of Bayeau and continued in this capacity until the death of the prelate. Then, the young man entered the surgical school of St. Cosme where he began to center his attention on lithotomy.

At the time of his father's death he entered a Franciscan monastery and was ordained a priest in 1740. He received a dispensation to practice surgery among the poor. He established a hospital in the Fenillans in Paris where he practiced with great success.

The instrument which he used in performing perineal lithotomy was the "lithotome cache" which was a hollow tube with a concealed blade. This was used to sever the prostate. Of the first 330 patients under his knife 316 were deemed successful cases.

His fame as a lithotomist spread. It excited some professional resentment and an attempt was made by the surgeons of Paris to have the king interdict his activities. Failing in this, his rival, Monsieur LeCat published material suggesting that the "lithotome cache" was not original. This produced an answer wherein he challenged anyone to duplicate his results with the operation.

It is thought that he and his nephew, with whom he worked at his hospital, operated for vesicle calculus over 1000 times. In addition, he originated another instrument for suprapubic puncture of the bladder called the "sonde a dart."

At the time of his death in July 1781, he was considered a benefactor by his contemporaries and was lamented especially by the poor. Treating without charge, he was known to say, "Keep it; I must not injure your children."

After his death, operations for calculus disease were performed by surgeons who did various other surgical procedures and it was not for over 100 years that urinary surgery again emerged as a separate specialty in medicine. He was the last and the greatest of the itinerant lithotomists. Can you name this doctor? See page 202a.

when diapers and drops are discarded it's time to change to Vi-Sol chewable tablets or teaspoon vitamins

Vi-Sol chewable tablets and teaspoon vitamins, specifically formulated for the child over two, are the logical continuation of vitamin supplementation at the end of the "baby" period. The taste will show in their smiles.

DECA-VI-SOL,* 10 significant vitamins, **POLY-VI-SOL,*** 6 essential vitamins. **Chewable tablets,** with fruit-like flavors, dissolve easily in the mouth... no swallowing problem... no vitamin aftertaste or odor. **Teaspoon vitamins,** orange-flavored liquid vitamins that children take readily.



announcing a new class of drug/the first analgomylaxant



analexin

a single chemical that is both a general non-narcotic analgesic and an effective muscle relaxant

analexin

A where pain makes tension and tension makes pain analexin stops both effectively

Analexin is a new synthetic chemical that inherently possesses within one molecular structure two different pharmacologic actions: (1) analgesia by raising the pain threshold and (2) muscle relaxation by selectively depressing subcortical and polysynaptic transmission (interneuronal blockade), abolishing abnormal muscle tone without impairing normal neuromuscular function.²

The analgesic potency of one tablet is clinically equivalent to that of 1 grain of codeine, however, phenyramidol is non-narcotic nor is it narcotic related. It is not habituating. No evidence of tolerance or cumulative effects. Muscle relaxant effect is comparable to the most potent oral muscle relaxants available.

relieves the total pain experience . . .

Pain, regardless of origin, is often paralleled by muscle tension, which may play a significant role in exacerbating the total pain experience. Employment of phenyramidol, a single agent with two distinct but simultaneous physiologic actions, has obvious advantages; for it can relieve the total pain experience more effectively as it acts on pain centers and muscle to produce analgesia and muscle relaxation.

e with remarkably few side effects

Analexin does not produce such centrally induced side effects as sedation, euphoria, etc., occasionally observed with analgesic agents or interneuronal blocking agents. The infrequent occurrence of mild gastro-intestinal irritation, or epigastric distress, pruritus with and without rash, has been noted. However, these effects subside promptly when dosage is reduced or discontinued.³

Clinical Results with Analexin in Painful Conditions					
investigator	type of pain treated	no. of cases	results or comment		
Batterman, Grossman & Mouratoff ³	musculoskeletal pain	118	"Not only is satisfactory relief of painful		
	ambulatory patients with other than muscu- loskeletal pain	43	states achieved in the majority of patients regardless of etiology and duration of pain, but there is also no evidence sug- gestive of cumulative toxicity. Further-		
	hospitalized patients with pain secondary to medical or surgical conditions	34	more, in contrast to codeine and meperi- dine, the likelihood of untoward reactions occurring in ambulant patients is not high."		
Wainer ⁴	dysmenorrhea	50	Excellent or good results in 45 out of cases; poor results in 5 cases in 4 which subsequently pathology was four		
	premenstrual tension and headache	50	In 50 cases—40 received excellent relie Of the remaining 10—five were subs quently demonstrated as migraine. In the remaining 5—there were poor results.		
	postpartum pain	100	phenyramidol with aluminum aspirin (Analexin-AF) successfully replaced aspirin and codeine in these 100 cases.		
Bealer ⁵	musculoskeletal pain	32	good to fair results in 29 out of 32 case poor results in 3 patients.		
Stern ⁶	ambulatory patients with a variety of pain- ful conditions	40	good relief in 32; poor in 8.		
Bader ⁷	dysmenorrhea	20	satisfactory results in 15; fair in 5; al women were able to remain at work		



analexin each tablet contains 200 mg. of phenyramidol HCl. Indications: for relief of pain, as in dysmenorrhea; postpartum pain; gout; tension headache; epigastric and abdominal distress; genitourinary conditions; low back pain, sprains and strains; myalgia, stiff neck, etc. Dosage: One or 2 tablets every 4 hours. Analexin is a yellow uncoated tablet.

analexin-AF each tablet contains 100 mg. of phenyramidol and 300 mg. of aluminum aspirin. Indications: for relief of pain and muscle tension complicated by inflammation and/or fever, as in: arthritis, arthralgia, bursitis, tendinitis. Dosage: 2 tablets every 4 hours. Analexin-AF is a two layered tablet—yellow and white.

REFERENCES: 1. Gray, A. P., and Heitmeier, D. E.: J. Am. Chem. Soc. 81:4347, 1959. 2. O'Dell, T. B., et al.: Fed. Prec. 18:1694, 1959. 3. Batterman, R. C.; Grossman, A. J., and Mouratoff, G. J.: Am. J. Med. Sc. 238:315, 1959. 4. Wainer, A. S.: The Use of Phenyramidol in Obstetrics & Gynecology, Read before the New York Academy of Sciences, Dec. 5, 1959. 5. Bealer, J. D., Clinical Report 511; 592, April 1, 1959. 6. Stern, E.: Clinical Report 511; 599, May, 1959. 7. Bader, G.: Clinical Report 511; 598, Aug., 1959. (Clinical Reports referred to are on file at the Medical Department, Irwin, Neisler & Co.)



in peptic ulcer...

both are basic

ALUDROX provides rapid, extended relief of pain in peptic ulcer. Its physiological neutralization is in the range of pH 3 to 5—pepsin is inactivated.

The time-proved combination (4:1) of reactive alumina gel and milk of magnesia in Aludrox relieves pain, accomplishes healing with no fear of gastrin stimulation, induced constipation or complication of existing constipation.

Wyeth Laboratories Philadelphia 1, Pa.

Tablets

Suspension

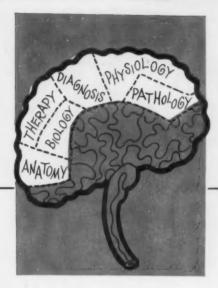
ALUDROX°

Aluminum Hydroxide with Magnesium Hydroxide, Wyeth

Also available: ALUDROX® SA (Aluminum Hydroxide with Magnesium Hydroxide, Ambutonium Bromide and Butabarbital, Wyeth); Suspension and Tablets.



A Century of Service to Medicine



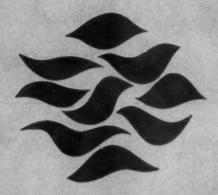
Mediquiz

These questions were prepared especially for Medical Times by the Professional Examination Service, a division of the American Public Health Association. Answers will be found on page 202a.

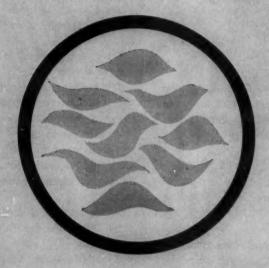
- 1. The treatment of choice of congenital spherocytic hemolytic anemia is:
 - A) Vitamin B₁₂.
 - B) Liver extract.
 - C) Iron.
 - D) Spray irradiation.
 - E) Splenectomy.
- 2. Cessation of menses, flattening of the breasts, hirsutism and deepening of the voice in a 35-year-old female with 3 children is most probably the result of coexisting:
 - A) Arrhenoblastoma.
 - B) Pelvic tuberculosis.
 - C) Chorionepithelioma.
 - D) Adrenal insufficiency.
 - E) Hypothyroidism.
- 3. A 40-year-old shipyard worker alleges injury to his left shoulder and arm, when the shoulder was dislocated but successfully reduced at a first aid station 10 days previously. The patient complains of severe burning pain, numbness and weakness of the left arm since the accident despite physical therapy. Examination shows weakness of pronation of the forearm and of flexion movements in the wrist, thumb, and index fingers, wasting of the thenar eminence, and difficulty in opposing the thumb. Sensory examination discloses reduced sensation over the palmar surface and dorsal tips of the thumb, index finger, and middle finger, and adjacent portion of the palm of the

- hand. Examination is otherwise negative except for emotional tension and reduced corneal reflexes. The correct diagnosis is:
 - A) Conversion hysteria.
- B) Combined ulnar and median nerve injury.
- C) Combined median and musculocutaneous nerve injury.
 - D) Median nerve injury.
 - E) Ulnar nerve injury.
- 4. In order to assure that there will be no regeneration of the fifth cranial nerve after sectioning for the intractable pain of 'tic douloureux' or trigeminal neuralgia, it is necessary to:
 - A) Inject alcohol into the nerve.
- B) Divide the nerve distal to the gasserian ganglion.
- C) Divide the nerve proximal to the gasserian ganglion.
 - D) Avulse the nerve from the pons.
 - E) Bury the nerve stump in the dura.
- 5. In which one of the following conditions is the red blood count altered to a clinically significant degree?
 - A) Pheochromocytoma.
 - B) Tuberculous peritonitis.
 - C) Regional enteritis.
 - D) Carcinoid of the appendix.
 - E) Carcinoma of the cecum.

Concluded on page 76a



in eight years Novahistine hasn't cured a single cold—but it has brought prompt relief of symptoms to almost 8,000,000 patients*



With the Introduction of Novahistine, a better and <u>safer</u> way to relieve symptoms of a cold became available to physicians. The synergistic action of the Novahistine formula...combining an orally-effective vasoconstrictor with an antihistamine...promptly clears the air passages and checks irritant nasal secretions. NOVAHISTINE can eliminate the problem of rebound congestion and damage to nasal mucosa in patients who misuse topical applications. • For long-lasting "Novahistine Effect" prescribe Novahistine LP Tablets...which begin releasing medication as promptly as conventional tablets but continue bringing relief for 8 to 12 hours. Two Novahistine LP Tablets in the morning and two in the evening will effectively control the average patient's discomfort from a cold. Each tablet contains phenylephrine HCl, 20 mg., and chlorprophenpyridamine maleate, 4 mg.

*Based on National Prescription Audits of new Novahistine prescriptions since 1952.



PITMAN-MOORE COMPANY Division of Allied Laboratories, Inc. • Indianapolis 6, Indiana



Butazolidin®

in arthritis and allied disorders

Ten years of experience in countless cases-more than 1700 published reports-have now established the leadership of Butazolidin among the potent non-hormonal antiarthritic agents.

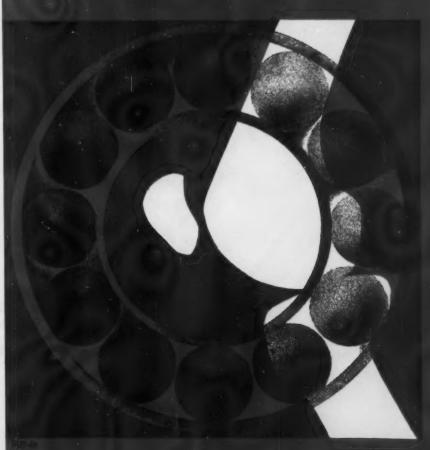
Repeatedly it has been demonstrated that Butazolidin: Within 24 to 72 hours produces striking relief of pain. Within 5 to 10 days affords a marked improvement in mobility and a significant subsidence of inflammation with reduction of swelling and absorption of effusion.

Even when administered over months or years Butazolidin does not provoke tolerance nor produce signs of hormonal imbalance.

Butazolidin® (brand of phenylbutazone):
Red-coated tablets of 100 mg.
Butazolidin® Alka: Capsules containing
Butazolidin® 100 mg.; dried aluminum
hydroxide gel 100 mg.; magnesium trisilicate
150 mg.; homatropine methylbromide 1.25 mg.

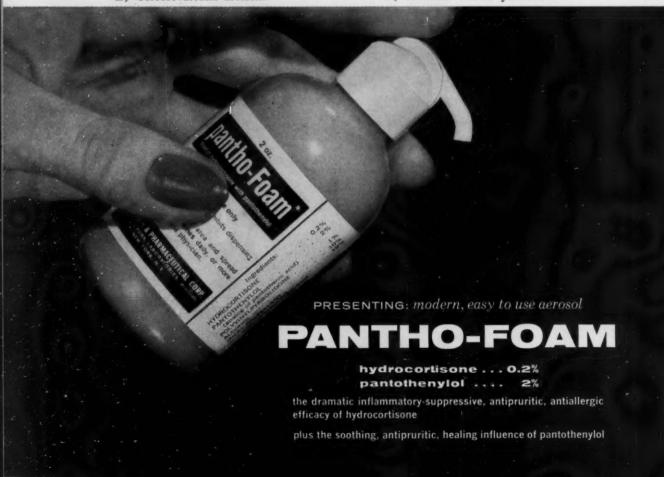
Geigy, Ardsley, New York





- 6. Increased transmission of whispered voice sounds during auscultation of the chest is a sign of:
 - A) Consolidated pulmonary parenchyma.
 - B) Apical tuberculous cavitation.
 - C) Pneumothorax.
 - D) A miliary disease process in the lungs.
 - E) Enlarged mediastinal nodes.
- 7. Brudzinski's sign, consisting of flexure movements of the ankles, knees and hips when the head is flexed, is indicative of:
 - A) Cerebellopontine angle tumor.
 - B) Suppurative meningitis.
 - C) Tabes dorsalis.
 - D) Paresis.
 - E) Cerebrovascular accident.

- 8. A combination of signs and symptoms that consists of severe persistent pain around the shoulder and down the arm, a Horner's syndrome, swelling of the arm, face and neck, and, in cases where the cord is destroyed, paraplegia, is known as:
 - A) Wilson's syndrome.
 - B) Pancoast's syndrome.
 - C) Albright's syndrome.
 - D) Kennedy's syndrome.
 - E) Christian's syndrome.
- 9. If a culture from a patient with an ulcerative membranous stomatitis is found to have a heavy growth of Klebs-Löffler bacilli, the diagnosis is:
 - A) Plummer-Vinson syndrome.



- B) Noma.
- C) Vincent's angina.
- D) Diphtheria.
- E) Scarlet fever.
- 10. The most common tumor of the parotid gland is:
 - A) Epidermoid carcinoma.
 - B) Mixed tumor.
 - C) Adenocarcinoma.
 - D) Sarcoma.
 - E) Malignant melanoma.
- 11. The commonest opinion regarding the significance and management of single thyroid nontoxic adenomas is that:
- A) Although there is no increased incidence of malignancy in such adenomas, surgical removal is the best treatment.
- B) These nodules often enlarge and give rise to pressure symptoms. Thus when they are discovered it is best to remove them in order to avoid future pressure symptoms.

- C) Since an appreciable percentage of these nodules prove on removal to be malignant, surgical removal is the treatment of choice.
- D) The increased incidence of cancer in single thyroid nodules can be prevented by routine administration of I131.
- D) There is no increased incidence of malignancy in such nodules and surgery should not be done routinely.

(Answers on page 202a)

VOLUME 2 MEDIQUIZ READY

A second volume of 150 Mediquiz questions, answers and references compiled by the Professional Examination Service, Division of the American Public Health Association is now available in booklet form for \$1 per copy. The supply of booklets is limited. To be certain you get your copy, send your dollar now to: Professional Examination Service, Department 23-B, American Public Health Association, 1790 Broadway, New York City 19, New York. Please specify "Volume 2." (A few copies of Volume 1 are available at \$1 each for those who missed out on this valuable review aid.)



numniled; aerosol container of 2 oz.

push-button control in

skin inflammation, itching, allergy

This non-occlusive foam lets the skin "breathe" as it "puts out the fire" of inflammation - unlike ordinary ointments.

Applied directly on affected area, pantho-Foam is today's non-traumatizing way to provide prompt relief and healing in

eczemas (infantile, lichenified, etc.) dermatitis (atopic, contact, eczematoid)

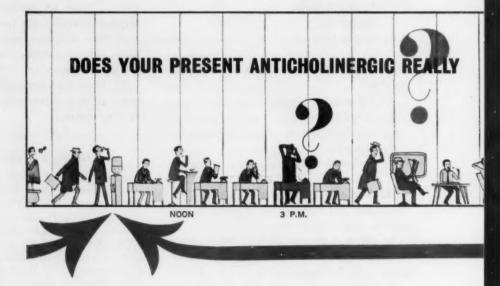
neurodermatitis

pruritus ani et vulvae

stasis dermatitis

u.s. vitamin & pharmaceutical corp.

Arlington-Funk Laboratories, division . 250 East 43rd Street, New York 17, N.Y.



The test—you might say the acid test—of an anticholinergic is simple: will it protect your patient from hyperacidity around the clock, even while he sleeps. The weakness of t.i.d. or q.i.d. preparations is well recognized; but even some "b.i.d." encapsulations may be unreliable. McHardy, for instance, found a "widely variable duration of action, definitely less than that anticipated" in the "sustained," "delayed," and "gradual release" anticholinergics he studied.

COMPARE THE DATA ON ENARAX...the new combination of an inherently long-acting anticholinergic (oxyphencyclimine) and Atarax, the non-secretory tranquilizer. Note the effectiveness of oxyphencyclimine:

OBSERVE THE OXYPHENCYCLIMINE REPORTS...

- McHardy: "[Oxyphencyclimine] has proved to be an excellent sustainedaction anticholinergic in our study of this agent over a period of eighteen months."
- Kemp: "...for the majority of patients, one tablet every 12 hours provided adequate control. This characteristic long action...may constitute an advantage of this drug as compared to coated 'long-acting' preparations of other compounds."

Add Atarax to this 12-hour anticholinergic. The resulting combination—ENARAX—now gives relief from emotional stress, in addition to a reduction of spasm and acid. Atarax does not stimulate gastric secretion. No serious adverse clinical reaction has ever been documented with Atarax.

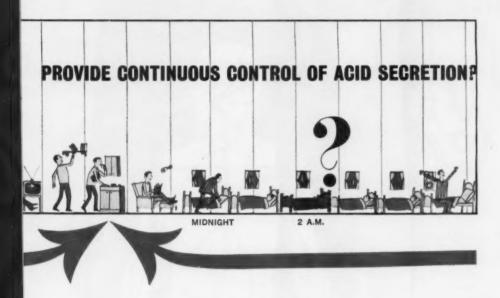
LOOK AT THE RESULTS WITH ENARAX4,5:

Does the medication you now prescribe assure you of all these benefits? If not, why not put your next patient with peptic ulcer or G.I. dysfunction on therapy that does.

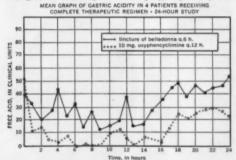
ENARAX

(axyphencyclimine plus ATARAX®

A SENTRY FOR THE G.I. TRACT



"Prolonged periods of achierhydria" after 10 mg, exyphencyclimine q. 12 h."



Clinical Diagnosis: Peptic Ulcer – Gastritis – Gastroenteritis – Colitis – Functional Bowel Syndrome – Duodenitis – Hiatus Hernia (symptomatic) – Irritable Bowel Syndrome – Pylorospasm – Cardiospasm – Biliary Tract Dysfunctions – and Dysmenorrhea.

Clinical Results: Effective in over 92% of cases.

As for Safety: "Side reactions were uncommon, usually no more than dryness of the mouth...."

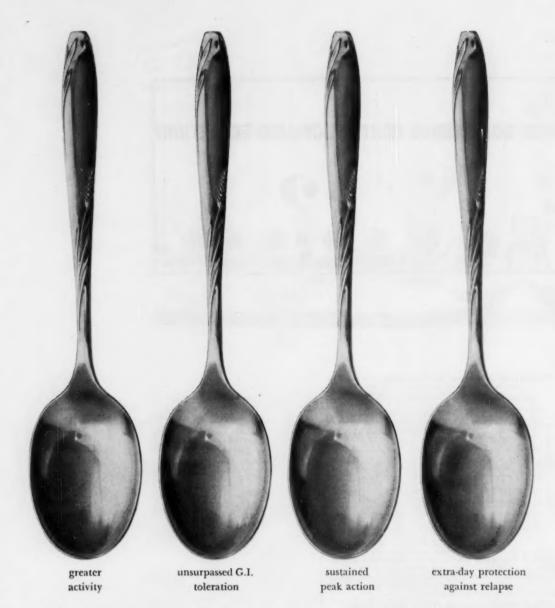
Each ENARAX tablet contains:

Oxyphencyclimine HCI
Hydroxyzine (ATARAX®)

Desage: One-half to one tablet twice daily — preferably in the morning and before retiring. The maintenance dose should be adjusted according to therapeutic response. Use with caution in patients with prostatic hypertrophy and with ophthalmological supervision only in glaucoma. Supplied: In bottles of 60 black-and-white scored tablets. References: 1. McHardy, G., et al.; J. Louislana M. Soc. 111:290 (Aug.) 1959. 2. Steigmann, F.: Study conducted at Cook County Hospital, Chicago, Illinois, in press. 3. Kemp, J. A.: Antibiotic Med. & Clin. Therapy 8:534 (Sept.) 1959. 4. Leming, B. H., Jr.: Clin. Med. 6:423 (Mar.) 1959. 5. Data in Roerig Medical Department files.



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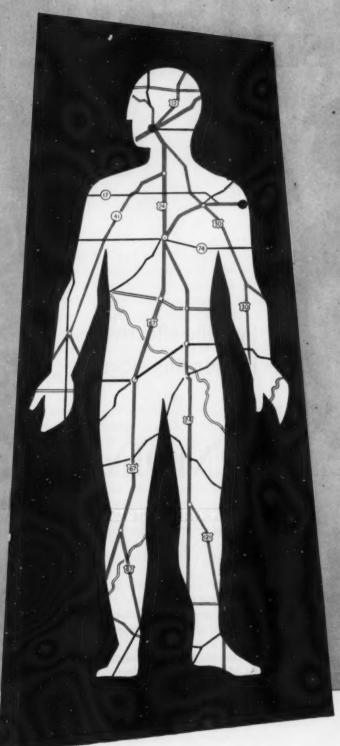
ECLOMYC

IN THE NEW,
CHERRY-FLAVORED

75 mg./5 cc. tsp., in 2 fl.
oz. bottle-3-6 mg. per lb.
daily in four divided door.

LEDERLE LABORATORIES, a Division of AMERICAN CYANAMID COMPANY, Pearl River, New York





faster healing at any location

CHYMAR

Buccal Aqueous Oil

superior anti-inflammatory enzyme

controls inflammation, swelling and pain

Chymar averts or rapidly reduces objective and subjective signs of inflammation of all types. It dissipates edema and hematoma, improves local circulation, reduces pain and accelerates healing. Side effects that have been observed with a steroid-type anti-inflammatory agents do not occur with Chymar.

thrombophlebitis cellulitis asthma bronchitis sinusitis burns bruises sprains fractures pelvic inflammatory disease biopsies ulcerations peptic ulcers dermatoses conjunctivitis uveitis

- CHYMAR Buccal Crystallized chymotrypsin in a tablet formulated for buccal absorption. Bottles of 24 tablets. Enzymatic activity, 10,000 Armour Units per tablet.
- CHYMAR Aqueous Solution of crystallized chymotrypsin in sodium chloride injection for intramuscular use. Vials of 5 cc. Enzymatic activity, 5000 Armour Units per cc.
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ARMOUR PHARMACEUTICAL COMPANY . KANKAKEE, ILLINOIS

Armour Means Protection



"SUNNY SIDE UP"



Specific effectiveness in morning sickness with

MORNIDINE®

for

- Prevention of nausea and vomiting
- Selective action on the emetic center
- · "Excellent" or "good" relief
- Little or no drowsiness

Mornidine (brand of pipamazine), another achievement of Searle Research, provides selective action on the vomiting center with very little drowsiness. Mornidine is extremely effective in morning sickness. In 145 pregnant patients, 91 per cent had "excellent" or "good" relief from nausea and vomiting.

Doses of 5 mg. at intervals of six to eight hours provide effective relief all day. Suggestion: first tablet to be taken upon awakening.

For patients unable to retain oral medication when first seen, Mornidine may be administered intramuscularly in doses of 5 mg. (1 cc.).

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine,



MODERN MEDICINALS

These brief résumés of essential information on the newer medicinals, which are not yet listed in the various reference books, can be pasted on file cards and a record kept. This file can be kept by the physician for ready reference.

Cardilate 5 Mg., Burroughs Wellcome & Co. (U.S.A.) Inc., Tuckahoe, New York. New dosage form, each sublingual tablet containing 5 mg. erythrol tetranitrate to facilitate adjustment of dosage to each patient's requirements. Indicated for prompt and prolonged prevention of angina pectoris. *Dose:* Average, 5-15 mg. four times daily. *Sup:* Bottles of 100.

Chemipen, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York, New York. Alpha-phenoxyethyl penicillin potassium. Indicated for the treatment of all infections amenable to therapy with any oral penicillin. *Dose:* Should be given three times daily in doses of 125 mg. or 250 mg. In the more severe or stubborn infections 500 mg. three times daily may be employed. Dosage for children is generally the same as that for adults. *Sup:* Scored yellow tablets of 125 mg. and 250 mg. in bottles of 24. Also Cherry-mint flavored syrup, containing when reconstituted, 125 mg. per 5 cc., in bottles of 60 cc.

Cogentin Injection, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pennsylvania. New dosage form, each cc. of which contains 1 mg. benztropine methanesulfonate. Indicated for the rapid relief of Parkinson-like dystonic crises symptoms which sometimes occur during therapy with certain tranquilizers (phenothiazine derivatives or reserpine). Also valuable in symptomatic treatment of arteriosclerotic, postence-phalitic, and idiopathic Parkinson's syndrome when oral medication is not possible or feasible. *Dose:* By injection intramuscularly or intravenously. *Sup:* 2 cc. ampule in boxes of 6.

Cosa-Terrabon Oral Suspension, Pfizer Laboratories, Division Chas. Pfizer & Co., Inc., Brooklyn, New York. Ready-to-use oral dosage form of terramycin with glucosamine. Indicated for treatment of a wide variety of common infections caused by susceptible organisms. Dose: Recommended dosage for adults is 1 Gm. daily in divided doses (two 5 cc. teaspoons four times daily). Children's dosage proportionately less, depending upon age, weight and severity of illness. Sup: Bottles of 2 oz. and 1 pt.

Delenar, Schering Corporation, Bloomfield, New Jersey. Tablets, each containing 15 mg. dexamethasone, 15 mg. orphenadrine HCl and 375 mg. aluminum aspirin. Indicated for mild or moderate rheumatic and arthritic conditions and injuries affecting joints, tendons and soft tissues. *Dose:* Usual initial dose is 2 tablets q.i.d., reduced gradually as directed by physician. *Sup:* Bottles of 100 and 1000.

Continued on page 88a

NEW spray-on surgical film controls bacteria even resistant

hospital "staph"

REZIFILM is a methacrylate resin.

On the skin, it forms a clear, firm,

flexible barrier against airborne microorganisms.

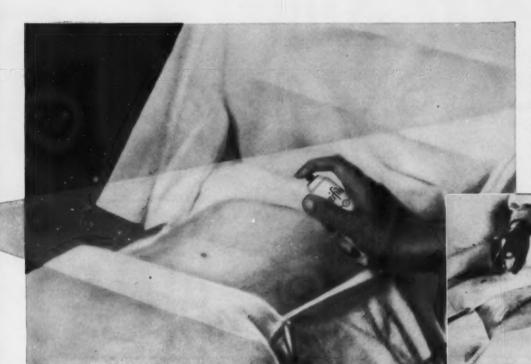
This physical protection is supplemented by the antibacterial activity of TMTD (tetramethylthiuram disulfide), readily diffusible from the plastic film to the skin beneath. TMTD, which is neither an antibiotic nor a sulfonamide, is highly active

against a wide range of pathogenic bacteria, including many organisms resistant to the most commonly used antibiotics.¹

Advantages:

- incision can be made directly through film,² minimizing
 or eliminating need for skin towels does not impede healing³
 no sensitization reactions reported
 - does not interfere with joint movement more comfortable than adhesive bandages • protects against clothing irritation⁴
- protects skin around enterostomy and fistula openings⁵

REZIFILM is not indicated as a dressing for second or third degree burns or for bleeding or granulating wounds.



PRE-OPERATIVELY Rezifilm is applied after prepping of the surgical area. It functions as a secondary drape.

POSTOPERATIVELY Rezifilm is applied following final closure of the incision. It provides comfortable protection against infection and irritation.

Compare the antibacterial activity of REZIFILM⁶

Comparison with other antibacterial agents

Penicillin Chloramphenicol

TMTD as contained in REZIFILM

Tetracycline

Comparison with other spray film preparations



Disc coated with methacrylate film plus TMTD (REZIFILM)

Streaked cultures of coagulase-positive Staphylococcus aureus, phage type 80/81; incubated 24 hours at 37°C.

An interesting 16 mm. color motion picture film (10 minutes) showing the use of REIFILM in surgery is available free of charge. Excellent for hospital and medical society meetings. Write to: Professional Service Department, Squibb, 745 Fifth Avenue, New York 22, N. Y.

Supplied: 6 oz. (avd.) spray dispenser cans.
References: 1. Eisenberg, G. M.:
Antibiotic Med. & Clin. Ther.,
6:594 (Oct.) 1959. 2. Thomson,
J. E. M.: Report to The Squibb
Institute for Medical Research,
June, 1957. 3. Maloney, J. V.
and Mulder, D. G.: Am. Surgeon 25:388 (April) 1957.
4. Bucher, R. M.: Report to
The Squibb Institute for Medical Research, July 3, 1957.
5. Hammond, J. A.: Report to
The Squibb Institute for Medical Research, May 3, 1957.
6. Eisenberg, G. M.: Weiss, W.;
Spivack, A. P.: Bassett, J. G.;
Ferguson, L. K., and Flippin,
H. F.: Adapted from Scientific
Exhibit, A.M.A. Meeting, June
8-12, 1959.

• provides skin asepsis, both preoperatively and postoperatively

• preoperative preparation made more convenient and more secure

> wound always in sight through window-clear film

 more convenient and more economical than ordinary dressings Rezifilm SPRAY DRESSING

transparent plastic barrier with antibacterial action



SQUIBB QUALITY-THE PRICELESS INOREDIENT

FOR SIMULTANEOUS IMMUNIZATION AGAINST 4 DISEASES:

Poliomyelitis-Diphtheria-Pertussis-Tetanus

PEDI-ANTICS



TETRAVAX.

now you can immunize against more diseases...with fewer injections

Dose: 1 cc.

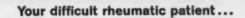
Supplied: 9 cc, vials in clear plastic cartons. Package circular and material in vial can be examined without damaging carton. Expiration date is on vial for checking even if carton is discarded.

For additional information, write Professional Services, Merck Sharp & Dohme, West Point, Pa.

ETRAVAX IS A TRADEMARK OF MERCK & CO., INC.



MERCK SHARP & DOHME, DIVISION OF MERCK & CO., INC., PHILADELPHIA 1, PA.



on the job again

through effective relief and rehabilitation



For the patient who does not require steroids

PABALATE®

Reciprocally acting nonsteroid antirheumatics . . . more effective than salicylate alone.

In each enteric-coated tablet: Sodium salicylate U.S.P....0.3 Gm. (5 gr.)

para-aminobenzoate0.3 Gm. (5 gr.) Ascorbic acid50.0 mg.

or for the patient who should avoid sodium

PABALATE® - Sodium Free Pabalate, with sodium salts replaced by potassium salts.

In each enteric-coated tablet:

Potassium salicylate0.3 Gm. (5 gr.) Potassium

para-aminobenzoate0.3 Gm. (5 gr.) Ascorbic acid

who requires steroids

PABALATE®-HC

(PABALATE WITH HYDROCORTISONE)

Comprehensive synergistic combination of steroid and nonsteroid antirheumatics... full hormone effects on low hormone dosage . . . satisfactory remission of rheumatic symptoms in 85% of patients tested.

In each enteric-coated tablet:

Hydrocortisone (alcohol) 2	.5	mg
Potassium salicylate 0		
Potassium para-aminobenzoate 0		Gm



PABALATE PABALATE HC

For steroid or non-steroid therapy: SAFE DEPENDABLE ECONOMICAL A. H. ROBINS CO., INC., RICHMOND 20, VIRGINIA . Ethical Pharmaceuticals of Merit since 1878

- Decagesic, Merck Sharp & Dohme, Division of Merck & Co., Inc., West Point, Pennsylvania. Compressed tablets, each containing 0.25 mg. dexamethasone, 500 mg. acetylsalicylic acid, and 75 mg. aluminum hydroxide in the form of dried gel. Indicated to provide relief from pain due to inflammations of mild to moderate rheumatoid arthritis including palindromic rheumatism, rheumatoid spondylitis, and psoriatic arthritis. *Dose:* 1 or 2 tablets three or four times daily. *Sup:* Bottles of 100.
- Kenalog Parenteral, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York, New York. Sterile aqueous suspension, each cc. of which provides 10 mg. triamcinolone acetonide. Indicated for intraarticular, intrasynovial or intrabursal injection in the treatment of inflammatory conditions of joints, bursae and tendon sheaths. Sup: Vials of 5 cc.
- Librium, Roche Laboratories Division of Hoffmann-La Roche Inc., Nutley, New Jersey. 7-chloro-2-methylamino-5-phenyl-3H-1,4-benzodiazepine 4-oxide hydrochloride. Indicated whenever fear, anxiety and tension are significant components of the clinical profile. *Dose:* In common emotional disturbances average dosage is 10 mg. three or four times daily. In more severe cases dosage may be doubled. In geriatic patients dosage should be limited to 10 mg. once a day. *Sup:* Green and black capsules, 10 mg. each, in bottles of 50 and 500.
- Miradon Tablets, Schering Corp., Bloomfield, New Jersey. Especially valuable for longterm anticoagulant therapy because of stability and individual patient predictability. Reduces hazards of hemorrhage or thrombosis during therapy (due to over or under-

- dosage). Each tablet contains 50 mg. anisindione (2-p-anisyl indandione-1,3). *Dose:* Administered in single daily dose. Initial doses are 300 mg. first day, 200 mg. second day, and 100 mg. third day. Maintenance dose, average, is 75 to 100 mg. daily. *Sup:* Bottles of 100.
- Motilyn, Abbott Laboratories, North Chicago, Illinois. Injectable pantothenyl alcohol. Indicated for relief of postoperative retention of flatus and feces in cases of intestinal atony and abdominal distention. Also used postoperatively to promote resumption of intestinal motility when this is delayed. May be employed for prophylaxis of paralytic ileus after abdominal surgery. Dose: For postoperative relief administer 500 mg. parenterally immediately after surgery. Repeat dose 2 hours later and at 12-hour intervals thereafter as necessary. For relief of paralytic ileus, administer 500 mg. intramuscularly when indicated and repeat at 4 to 6-hour intervals as necessary. In children, reduce dose to approximately 0.1 ml. for each five pounds of body weight. Sup: In sterile 2ml. ampuls, each containing 500 mg., packed in 10's and 25's. Also in 10-ml. multipledose vials, containing 250 mg. in each ml., packed in 6's.
- Naturetin with K, E. R. Squibb & Sons, Division of Olin Mathieson Chemical Corp., New York, New York. New dosage form, containing in each capsule-shaped tablet 5 mg. benzydroflumethiazide and 500 mg. potassium chloride. Potassium chloride has been included in this new diuretic-antihypertensive for added protection when treating hypokalemia-prone patients and during extended periods of therapy. *Dose:* As directed by physician. *Sup.* Bottles of 100.

Concluded on page 94a

orally effective progestational therapy

NORLUTINION (norethindrone, Parke-Davis)

in conditions involving deficiency of progesterone...

primary and secondary amenorrhea • menstrual irregularity • functional uterine bleeding • endocrine infertility • habitual abortion • threatened abortion • premenstrual tension • dysmenorrhea

PAOKAGING: 5-mg. scored tablets, bottles of 30.

PARKE, DAVIS & COMPANY . DETROIT 32, MICHIGAN

PARKE-DAVIS





IN PARKINSONISM no other drug equals Parsidol in control of major tremor, 1,4 a key symptom of Parkinson's disease. By improving fine finger dexterity and muscular coordination, Parsidol helps increase functional efficiency.

Parsidol also brightens the patient's outlook and his selfconfidence is restored as he finds himself able to do more things with greater ease. Moreover, Parsidol is "very well tolerated by the geriatric patient,"1,3,4 who comprises twothirds of the nation's parkinsonian roster.3 Effective by itself Parsidol is also compatible with most other antiparkinsonian drugs. 1,2,4 Most patients respond to a maintenance dosage of 50 mg. q.i.d.

PARSIDO brand of ethopropazine hydrochloride

- 1. Schwab, R. S. and England, A. C.: J. Chron. Dis. 8:488 (Oct.) 1958.
 2. England, A. C. and Schwab, R. S.: A.M.A. Arch. Int. Med. 104:439 (Sept.) 1959.
 3. Schwab, R. S.: Geriatrics 14:545 (Sept.) 1959.
 4. Doshay, L. J. et al.: J.A.M.A. 160:348 (Feb. 4) 1956.

185

established starting point for individualized management of cow's milk sensitivity

MULL-SOY

Since food allergy creates clinical problems requiring individualized management, the disadvantages of a "fixed" formula are apparent. MULL-SOY, however, provides all the management flexibility of evaporated milk, and may be used in the same way.

Type and quantity of carbohydrate — and degree of dilution — can be adjusted to the needs of each case. Yet MULL-SOY assures well tolerated protein for good growth, a fat content high in linoleic and the other important unsaturated fatty acids, and dependable relief from milk-allergy manifestations such as eczema, asthma, persistent rhinitis, hyperirritability, colic, diarrhea, vomiting (pylorospasm), and nasal stuffiness.

Other essential nutrients such as vitamins A, D, C, the B vitamins, and iron should be added to the diet at the physician's discretion.

Liquid - 15½-fl.oz. tins; Powdered - 1-lb. tins.



In Asthmatic Attacks...

AMPLE AIR IMMEDIATELY

with

Medihaler®

- Ready and in use in 5 seconds under any circumstance.
- Travels with the patient anywhere...Can be concealed in the hand... Can be carried in vest pocket or purse.
- Dose is metered and medication is propelled automatically with singlestroke finger pressure.
 200 doses per vial.

Prescribe either of two bronchodilators: isoproterenol or epinephrine

Medihaler-ISO°*

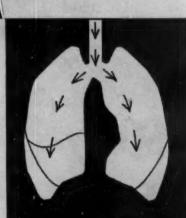
Isoproterenol sulfate, 2.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each measured dose contains 0.06 mg. isoproterenol.

Medihaler-EPI°*

Epinephrine bitartrate, 7.0 mg. per cc., suspended in inert, nontoxic aerosol vehicle. Contains no alcohol. Each measured dose contains 0.15 mg. epinephrine.

*First Rx: vial of medication with oral adapter Repeat Rx: can specify refill vial only

Riker -



2212', greater vital capacity within seconds after inhalation... medications premicronized to particle size which assures fastest delivery to alveolar spaces.

TESSALON' is the tasteless cough controller

The problem of taste, which can be a hindrance to effective cough therapy, simply does not exist with Tessalon perles. There is no gagging, no refusal, no delaying, no "cheating"—because Tessalon perles provide medication enclosed in tasteless gelatin spheres.

Tessalon, a nonnarcotic, is 21/2 times as effective as codeine.* Tessalon acts both at the sensory receptors in the chest and the cough centers of the medulla. Furthermore, it controls cough frequency without interfering with productivity or expectoration; sputum is usually thinner, easier to raise. Tessalon acts within 15 or 20 minutes, controls cough for 3 to 8 hours. There are no major side effects. Whether for acute or chronic cough, whether for short- or long-term therapy, Tessalon has a remarkable margin of safety. Perles insure built-in, precise dosage -no sugar or sodium to interfere with diet, no problem of nausea. Tessalon perles are easy to swallow, easy to carry in pocket or purse.

supplies. Tessalon Perles, 100 mg. (yellow); bottles of 100. Tessalon Pediatric Perles (for children under 10), 50 mg. (red); bottles of 100. Also oscilable (for use when oral administration of Tessalon is precluded): Ampuls, 1 ml. (5 mg.); cartons of 5.

* Shane, S. J., Krzyski, T. K., and Copp. S. E.: Canad. M.A.J. 77:600 (Sept. 15) 1957. TESSALON® (benzonatate CIBA)

C 1 B A

- Neo-Aristoderm Foam, Lederle Laboratories Division, American Cyanamid Co., Pearl River, New York. A greaseless foam containing in each 15 cc. 75 mg. neomycin sulfate and 15 mg. triamcinolone acetonide. Indicated for the treatment of various dermatoses including eczema, dermatitis and pruritus. *Use:* Apply sparingly to affected area three or four times a day. *Sup:* Pressure bottles of 15 cc.
- Oxaine Suspension, Wyeth Laboratories, Philadelphia, Pennsylvania. Indicated for treatment of chronic gastritis, esophagitis without stricture and irritable bowel syndrome. Each 5 cc. teaspoonful contains 10 mg. oxethazaine in alumina gel. *Dose:* Average adult dose is 1 or 2 teaspoonfuls 4 times daily. *Sup:* Bottles of 12 oz.
- Panwarfin, Abbott Laboratories, North Chicago, Illinois. Tablets containing either 5 mg., 10 mg., or 25 mg. warfarin sodium. Indicated for the treatment and prophylaxis of intravascular thrombosis and embolism, specifically-treatment of myocardial infarction, postoperative thrombophlebitis, acute embolic and thrombotic occlusion of cerebral and peripheral arteries, intravascular clots, recurrent idiopathic thrombophlebitis and pulmonary embolism. Dose: To initiate treatment Panwarfin can be combined with heparin sodium to achieve immediate anticoagulant effect. After a few days, injections of heparin sodium may be discontinued. Generally, about 50 mg. of Panwarfin is a satisfactory initial dose and about 10 mg. daily is usually sufficient to maintain therapeutic prothrombin levels. Sup: Three strengths in bottles of 100 and 1000.

Peritrate with Phenobarbital Sustained Action,

Warner-Chilcott Laboratories Div., Morris Plains, New Jersey. Double-layered tablets, each containing 45 mg. phenobarbital and 80 mg. pentaerythritol tetranitrate. Indicated to supply all-day and all-night protection for the anxious coronary patient. *Dose:* One tablet on arising and 1 tablet 12 hours later. *Sup:* Bottles of 100.

Prednefrin Forte Ophthalmic Suspension,
Allergan Corporation, Los Angeles, California. Contains prednisolone acetate 1.0%
and phenylephrine 0.12%. Indicated for
topical treatment of extremely severe inflammatory and allergic eye disorders. Use: As
directed by physician. Sup: Plastic dropper

bottles of 5 cc.

- Prednisolone Acetate-Aqueous Injection, Philadelphia Ampoule Laboratories, Inc., Philadelphia, Pennsylvania. Highly potent adrenocortical steroid having up to 5 times the per milligram potency of cortisone or hydrocortisone with little or no fluid electrolyte disturbance at average therapeutic dosages. Indicated in cases of rheumatoid arthritis, osteoarthritis and post-traumatic bursitis. Dose: Suggested initial dose, 20-30 mg. per day. Sup: Vials of 5 cc.
- Tri-Span, Walker Laboratories, Inc., Mount Vernon, New York. Time-release capsules containing therapeutic multiple vitamins released in three spheres: the first immediately, the second three hours later; and the third about 6 hours after ingestion. Indicated to provide a steady day-long vitamin intake to avoid the peaks and valleys of single-dose high potency products. Sup: Bottles of 30.



White's

Orabiotic

antibiotic/analgesic

chewing gum troches

- 1 Chewing reduces local postoperative muscle spasm, stimulates the flow of saliva and spreads the medication widely over the mucosa. The effect of ORABIOTIC thus resembles "a bacteriostatic bath".2
- 2 Because the patient is more comfortable, he resumes his normal diet, "by the third to the fifth day" instead of the usual week to 10 days.
- **3** Propesin an effective analysis agent supplies dependable topical relief of pain without impairment of the sense of taste.
- 4 Nonirritating and virtually nonsensitizing.

DOSAGE: After tonsillectomy—one troche chewed for 10-15 minutes q. 4 h, from the first through the fifth postoperative day.

SUPPLIED: In packages of 10 and 20 troches. Each troche contains 3.5 mg, Neomycin (from the sulfate), 0.25 mg, Gramicidin, 2.0 mg, Propesin(propyl p-aminobenzoate).

References: 1, Clin. Med. 4:699, June, 1957, 2, E.E.N.T. Mo. 36:294, May, 1957, 5, E.E.N.T. Mo. 36:406, July, 1957.



White Laboratories, Inc., Kenilworth, New Jersey

WORKS FROM THE INSIDE OUT

Treatment for the sinus symptom complex URSINUS

In acute and chronic sinusitis

... a logical, clinically superior formulation of



Calurin

.. the new, freely soluble, better tolerated neutral salt of aspirin

relieves pain

.. fast and effectively



Triaminic

. the leading oral nasal decongestant . . .
safer and more effective than topical medication 1,2

relieves pressure

.. within minutes

Ursinus Inlay-Tabs contain:

CALURIN (stable, freely soluble calcium acetylsalicylate carbamide) equiv. to acetysalicylic acid......(5 gr.) 300 mg.

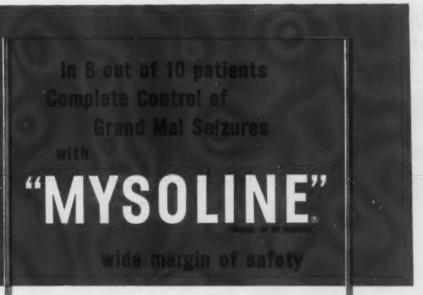
INDICATIONS: Acute, subacute and chronic sinusitis. Relief of symptoms accompanying the common cold.

DOSAGE: Adult: 1 or 2 URSINUS Inlay-Tabs every 4 to 6 hours. Children 6 to 12: ½ to 1 URSINUS Inlay-Tab every 6 hours.

SUPPLY: Bottles of 100 URSINUS Inlay-Tabs.
URSINUS is available on prescription only.

SMITH-DORSEY · Lincoln, Nebraska a division of The Wander Company

1. Farmer, D. F.: Clin. Med. 5:1183 (Sept.) 1958. 2. Lhotka, F. M.: Illinois M. J. 112:259 (Dec.) 1957.



Composite Results of 20 Clinical Studies

Results in 252 aplicable petients when "Mylfolline" was used alone.						
Type of Seizure	Number of Patients	Completely Controlled	50-90% Improved	<50%		
Grand Mal Psychomotor Focal Jacksonian	214 29 19	172 (80%) 19 (65%) 19 (100%)	15 (7%)	27 (13%) 10 (35%)		

Results in 535 epileptic patients who had falled to respond successfully to other anticonvulsants. "Mysoline" was added to current medication which, in some cases, was eventually replaced by "Mysoline" elected.

Type of Seizure	Number of Patients	Completely Controlled	50-90% Improved	<50%
Grand Mal	613	175 (28.5%)	253 (41.2%)	185 (30.3%)
Psychomotor	130	10 (7.7%)	65 (50%)	55 (42.3%)
Focal Jacksonian	92	14 (15.2%)	36 (39.1%)	42 (45.7%)

The dramatic results obtained with "Mysoline" advocate its use as first choice of effective and safe therapy in the control of grand mal and psychomotor attacks.

SUPPLIED: 0.25 Gm. scored tablets, bottles of 100 and 1,000.

LITERATURE AND BIBLIOGRAPHY ON REQUEST



"Mysoline" is available in the United States by arrangement with Imperial Chemical Industries, Ltd.

Whatever the indication,* whatever degree of sedation desired, a form of Nembutal will meet the need





NEMBUTAL® (PENTOBARBITAL, ABBOTT)

(Nothing Faster, Shorter-Acting, Safer in Barbiturate Therapy)

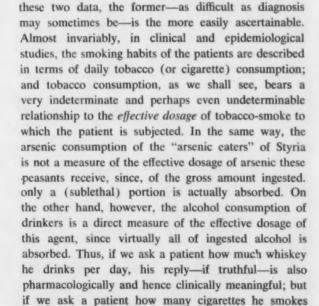
MEASUREMENT of TOBACCO SMOKING

The authors present the problems involved in determining the effect of tobacco smoking in clinical investigations and epidemiological surveys.

tobacco-induced, or tobacco-aggravated disease must be solidly based upon two principles, first, the proper diagnosis of that disease, and second, an accurate measurment of the smoking habits of the patient. Of

ny valid account of a tobaccogenic,

P. S. LARSON, Ph.D.
H. B. HAAG, M.D.
H. SILVETTE, Ph.D.
Richmond, Virginia



daily, his answer—even if he can actually remember (see Lancet 2: 1226, 1957)—is meaningless on both



TABLE 1 CLASSIFICATION OF TOBACCO-USERS ACCORDING

			F SMOKING	
AUTHOR	LIGHT	MODERATE	HEAVY	EXCESSIVE
A. SMOKING TOBACCO (CALCULATED AS GM.	PER DAY)			
Romberg, 1925				30
Schlumm, 1930			>15	
Lickint, 1934	≦5	6-10	11-20 .	>20
Morton, H. J. V., 1944	<15	>15		
Johnston, L. M., 1945			>15	
Pindborg, 1947			>10	
Schmidt, H. J., 1951		5	20	>20
B. PIPE-SMOKING (CALCULATED AS PIPEFULS I	PER DAY)			
Fisk, E. L., 1923		<9		
Earp, 1926	1	≦3	>3	
Blumer, 1934		≦3		>3
Master, Dack & Jaffe, 1937		2-4	≥5	
Abels, J. C., et al., 1942				>10
C. CIGAR SMOKING (NUMBER SMOKED PER	DAY)			
Erb, 1911			7-12	13-20
v. Frankl-Hochwart, 1911-12	≤4	≦7	≤12	>12
Fisk, E. L., 1923	Contract of the Contract of th	<4		
Romberg, 1925				5
Earp, 1926	1	≦2	>2	
Barker, N. W., 1931	1-2	3-5	6-8	≥9
Blumer, 1934		≤3		>3
Lickint, 1934	1	2	3-4	>4
Master, Dack & Jaffe, 1937		2-4	≧5	
Müller, F. H., 1939		1-3	4-9	>10-15
Abels, J. C., et al., 1942				>10
Martin, H., 1942			15-20	
Schairer & Schöniger, 1943		1-2	3-4	>4
Fisher, R. L., & Zukerman, 1946				>4-5
Decaux, 1949		1-2		
Schmidt, H. J., 1951		1	3-4	>4
D. CIGARETTE-SMOKING (NUMBER PER DAY;	20 CIGARET	TES = 1 PACK)		
Erb, 1911			15-20	40-100
v. Frankl-Hochwart, 1911-12	≦10	≦20	≦30	>30
Idelsohn, 1912		5-30	30-50	>50
Siebelt, 1917				30-40
Fisk, 1923		<9		
Romberg, 1925				25
Earp, 1925, 1926	2	≦10	>10	
Schlumm, 1930			>10	

TO DAILY CONSUMPTION

	DEGREE OF SMOKING			
AUTHOR	LIGHT	MODERATE	HEAVY	EXCESSIVE
D. CIGARETTE SMOKING (Continued)				
Stapf, 1930		≤15	≤40	
Barker, 1931	1-7	8-19	20-29	≥30
Kennedy, T. F., 1931		<20	20	= 30
Meyers, 1931				15-20
Turley & Harrison, 1932			≧20	1 1 1 1 1 1 1
Blumer, 1934		≦20		>20
Lickint, 1934	≦5	6-10	11-20	>20
Bergman & Rikles, 1936	100	20		20-40
Brit. Med. Assoc. Comm., in J.A.M.A., 106: 2079, 1936				20
Roffo, 1936		1000	>24	
Master, Dack & Jaffe, 1937	1-5	. 6-15	≧16	
Müller, F. H., 1939		1-15	16-35	>35
Abels, J. C., et al., 1942				>25
Weselmann, 1942		<12	>12	
Kutschera-Aichberger, 1943	The Best of	18	36	
Periman, Dannenberg & Sokoloff, 1942	1-4	5-10	11-20	
Schairer & Schöniger, 1943		≦10	11-20	>20
Morton, H. J. V., 1944	<10	>10		
Johnston, L. M., 1945			>10	
Fisher & Zukerman, 1946				>20
Weinroth & Herzstein, 1946	≦5	5-15	>15	
Decaux, 1949		few		
Doll & Hill, 1950			≥25	
Watson, W. L., 1950		≦20	20-60	
Wynder & Graham, 1950		A STATE OF THE PARTY OF THE PAR		21-34
Gsell, 1951			>15	
Schmidt, H. J., 1951		5	20	>20
Shepherd, J. T., 1951		10-20		
Parmeggiani & Gilardi, 1952		10-12	30-40	
Denk, 1953	≦10	11–20	>20	
Friedberg & Wallner, 1953		-10	>20	>40
Levy, R. L., 1953		≦10		
Levin, M. L., 1954	<5	10.10	>20	
Palmer, 1954	<10	10–19	≥20	-30
Randig, 1954, 1955	1-4	5-9	10-19	≥20
Ruel, 1954 Pietrantoni, 1955	few ≤10	10–15	≥20	
Ryan, McDonald & Devine, 1955	=10		>25	
Clough, 1956		<15	≥16	
Brozek & Keys, 1957		13	>20	
Roth, O., & Pepe, 1957		10-20	40-100	
Simpson, W. J., 1957	1-10	20-20	>10	
Simpony III. Siy 2757			-10	

counts, unless we know precisely how much of these cigarettes is, in Hilding's (1956) phrase, burned into the mouth, and then how much of that particular portion of the tobacco-smoke is actually deposited on susceptible tissues and/or absorbed into the blood-stream. In terms of "effective dosage," then, there may be enormous differences among those listed as "smokers" (or, rather, purchasers!) of one pack of cigarettes a day. Conversely, there may be little "pharmacological" difference between a smoker who deeply inhales the greater part of the smoke of a very few cigarettes, and one who puffs but a small part of the smoke of a very great number, leaving most of his cigarettes smouldering away on an ash-tray. In terms of daily consumption of cigarettes, the former may find himself in the published category of a "light" smoker, the latter, of a "chain-smoker." Yet in terms of tobacco "tars" deposited on the respiratory mucous membranes or of nicotine absorbed into the bodysystem, the latter may in fact be the "light" smoker, the former, the "excessive" one. It is clear, then, that degrees of cigarette-smoking in particular, cigar- and pipe-smoking to a lesser extent, cannot be expressed by the single and deceptively simple quantitative measure of daily tobacco consumption, even if there were agreement as to the significance of such a measure. The manner of smoking (for example, with or without inhalation) influences the effective dosage of tobacco-smoke to a very significant degree; and we have further to consider that "effective dosage" is neither a single figure, nor yet a dose-range applicable to all smokers, but rather a private possession, so to speak, of each individual smoker himself.

Degrees of Smoking

In spite of the well-recognized fact that what is one smoker's "light smoking" is another's "excessive smoking," and vice versa, a great many writers have attempted to classify tobac-co-users as "light," "moderate," and "heavy," and "excessive" smokers on the basis of their daily consumption of tobacco (Table 1). In this classification, light smokers sometimes

include so-called "mild" or "occasional" smokers. Moderate smokers include "temperate," "normal," or "average" smokers. Heavy smokers include "inveterate" smokers, also "habitual" smokers, or "very heavy" smokers, depending on context. Excessive smokers include "enormous" or "extreme" smokers, sometimes "very heavy" smokers, also depending on context. What is immediately apparent from a consideration of Table 1 is that such adjectives-often used pejoratively-pertaining to degree of tobacco-use define the attitude of the writer, rather than express any real objective quantitation: what is one author's "excess" is another writer's "moderation," and contrariwise. Thus (limiting examples to recent writers), a smoker of ten cigarettes per day is to some a light smoker (e.g. Denk, 1953; Pietrantoni, 1955), to others a heavy smoker (Randig, 1955); a consumer of one pack of cigarettes daily is a moderate smoker (Watson, 1950; Shepherd, 1951; Roth and Pepe, 1957). However, if he smokes but twenty-one cigarettes per day, he is classified by others as an excessive smoker (Wynder and Graham, 1950; Schmidt, 1951). Similar rewarding comparisons may be made up and down Table 1; and it is amusing to observe that those whose writings suggest them to be as great enemies to tobacco as King James I are inclined to consider that it takes very little smoking to be excessive e.g. L. M. Johnston, 1945).

When clinical writers define their adjectival classification of smokers by inserting, parenthetically or otherwise, the equivalent number or range of cigarettes used, there need be no confusion if the adjectives are forgotten and the figures remembered; but a reverse memory is too often the case, and the use of adjectives in discussing populations of smokers is both inexact and misleading. There is something to

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be said for Mayo Clinic type of classification of smoking, that is, by arbitrary grades; and there would be more to be said in favor of it if there were general agreement and widespread use of such grading. According to Barker (1931), Grade 1 smokers consume 1-7 cigarettes or 1-2 cigars per day; Grade 2 smokers, 8-19 cigarettes or 3-5 cigars; Grade 3 smokers, 20-29 cigarettes or 6-8 cigars and Grade 4 smokers, 30 or more cigarettes or 9 or more cigars daily. Sigler (1955) has graded smokers as follows: 1+, 1-10 cigarettes or 1-2 cigars or pipe per day; 2+, up to 20-30 cigarettes or 6 cigars or 8-10 pipes daily; and 3+, much above the foregoing. Like the Mayo Clinic system of grading degrees of smoking, this too avoids adjectives, pejorative or otherwise; but when arbitrary systems are multiplied rather than agreed upon, their practical advantages become serious disadvantages. Furthermore, in such systems of grading as well as in adjectival classifications, the differences between the several degrees of smoking ultimately boils down to a single cigarette; and it may be doubted that differences predicated upon a single cigarette daily have biological significance.

It is useful to know the cigarette consumption of the average smoker (to be distinguished from any per capita "average cigarette consumption"), although it would be in error to suppose that, necessarily, anything above this "value" constitutes "excessive smoking," while anything below it is "light smoking." According to Müller (1939), average smokers consume 1-15 cigarettes per day; according to Schairer and Schöniger (1943) 6-10 cigarettes; according to Ruel (1954), 10-15. Kutschera-Aichbergen (1943) found that 329 male hospital patients, aged 30-60 years, averaged 18 cigarettes a day. Based on a survey of smoking habits of 21,612 individuals in Texas, one pack a day seems to be the average number consumed by a male cigarette-smoker (Kirkhoff and Rigdon, 1956). In the United States as a whole, according to estimates of smoking habits as released jointly by the Census Bureau and the National Cancer Institute, about 4,000,000 of the 25,000,000 men regular cigarettesmokers smoke less than half a pack a day, 500,000 smoke more than two packs a day, the majority smoke 10-20 cigarettes a day, and 2,000,000 others smoke cigarettes occasionally (*J.A.M.A.* 158: 14, 1955).

With these estimates of the cigarette consumption of the "average smoker" in mind, we may consider certain aspects of the classification of cigarette-smokers according to various authorities (Table 1). If the "average consumption" be taken as 10-20 cigarettes per day, or, in more general terms, less than one pack per day, then it would appear that there is little disagreement among authorities that "excessive smoking" of a pack or more of cigarettes daily is actually above average consumption. But, comprised within the cigarette consumption of the "average smoker" are degrees of smoking characterized by the several authors as "light," "moderate" or "heavy." Judging from the authorities then, all one can say is that the "average smoker" is not an "excessive smoker"; and that the degrees of "non-excessiveness" may be said to vary over an extraordinarily wide range. Furthermore, the only criterion of "excessive smoking" deducible from this Table is that it is "more-thanaverage"—a criterion again obviously of little or no biological significance. Many of the pub-· lished statistical studies dealing with "tobaccogenic" disease do suggest a biological range for "excessive smoking," the validity of which depends, of course, on the biological meaningfulness of the statistical association shown between the incidence-rates of various diseases and the consumption of cigarettes; although it must be emphasized that "excessive smoking" established in this way has no predictive value, nor any particular significance, in any individual case.

Nevertheless, it is preferable, in all clinical and epidemiological investigations, to express consumption in the simple figures of number of cigarettes smoked per day; although, as we have already suggested, the number of cigarettes smoked is no more accurate or descriptive of "effect dosage" than adjectival description.

Effective Smoking

Leaving out possible differences in composition of tobacco and its smoke, "effective smoking" is mainly determined by two factors: the actual dosage of tobacco-smoke, measured by the amount of the cigarette actually burned into the mouth, and its actual or potential absorption or adsorption measured by degree of inhalation. Important data relating to this concept has been furnished by Hilding (1956). Feeling that perhaps the smoker's statement of how many packages he smokes is not a valid measure of intake, this worker studied the smoking habits of subjects who were not aware of being observed, and he found that the actual amount of the cigarette burned into the mouth varied from 2.5 to 29 mm. From this, he concluded that the amount taken into the mouth does not necessarily parallel at all the number of packs which the subject states he smokes; hence, incongruities in statistical studies, such as those reported by Hammond and Horn (1954), do not necessarily speak against the relation of cigarette-smoking to disease, but may only indicate that the measure of consumption used is inaccurate. Translated into popular terms (Life Magazine, June 11, 1956), an average pack-a-day smoker consumes 51/2 feet of cigarette daily, but only the smoke from 10 inches enters the smoker's mouth.

The butts left by Hilding's subjects varied from 23-69 mm., and averaged 36.25 mm. in length. Butt length, however, gave only information as to how much of a cigarette was burned, not how much was burned into the mouth; nor was the cumulative time of all puffs found to be a measure of smoke intake, because some subjects aspirated much more deeply than others. Since butt length is not (necessarily) a direct measurement of effective dosage too much emphasis should not be placed upon such figures as those reported by Hammond (1958) and by Doll and his associates (1959). The former had 4,283 discarded cigarette butts collected in a number of American cities, and found the average length of all the butts to be 30.9 mm.; while the latter obtained 772 cigarette butts from 71 individuals in a small, randomly-selected sample of the civilian population of England and Wales, and found the average butt length to be 18.7 mm. Comparing their finding to Hammond's, Doll and his co-workers concluded that such a large difference in smoking habits might considerably influence the national exposure to any carcinogen in cigarette smoke; but it is obvious that such "averages" are not useful in defining the smoking habits of any individual patient.

Inhalation

Colledge (1950) once calculated that those who smoke 40 cigarettes per day are occupied with smoking for about 46 hours per week; and if the average number of inhalations per standard-size cigarette is about 13, and each inhalation of approximately 8 seconds, then the person who smokes this daily number of cigarettes will have his lungs full of smoke for about 69 minutes per day or just over 8 hours per week. Such a calculation, if based on accurate individual data, approaches the measure (however impracticable) of effective dosage. In practice, however, only a notation as to whether or not the patient inhales may be all that is available; and such a notation should be a sine qua non of every smoking history in all clinical and epidemiological studies. Unfortunately, only in the better of the recent reports and surveys has this been the rule rather than the exception. It would not be too farfetched to say that the two categories of smokers-inhalers and non-inhalers -should be separately considered in all such studies. Innumerable experimental investigations on man make it evident that inhalation greatly intensifies the pharmacological effects of tobacco-smoke, and conversely such effects are much less marked in the case of "mouth smoking" or puffing. Such differences are quantitative in nature, but it is not inconceivable that there may be qualitative differences in response as well, for the lungs represent a site of local deposition of insoluble matter and of direct absorption into the systemic circulation of soluble matter in tobacco-smoke, while in "mouth smoking," saliva containing smoke constituents is swallowed and the absorbed material passes through the liver.

According to a recent mail survey conducted by Hammond (1959), the proportion of men who said that they inhaled increased with the amount of smoking and decreased with age; was very much higher for cigarette-smokers than for cigar- and pipe-smokers; and was much higher for men who smoked only cigarettes than for men who smoked both cigarettes and cigars. Filter-tip cigarettes had very little influence on inhalation practices. Curiously enough, discarded butts of filter-tip cigarettes were found to be virtually the same length as those of cigarettes without filter-tips (Hammond, 1958). In measurements of butt lengths reported from the Netherlands, the average length left unsmoked was 20.5 mm. for nonfilter cigarettes and 23.3 mm. for filter cigarettes (Korteweg, 1959).

Smoking Equivalents

It has been the practice of many writers to express the smoking habits of their patients or subjects as "smoking equivalents." Kirkhoff and Rigdon (1956), however, do not consider it wise, in any study of the relation between smoking and disease, to convert pipe- and cigar-smokers into "cigarette smokers." As examples of such "conversions," one pipe of tobacco was considered to equal 2.5 cigarettes (Doll and Hill, 1950; Watson, 1950; Wittekind and Strüder, 1953), although it is obvious to any observer that pipes may differ in bowlsize and in packing. One cigar was considered to be equivalent to 5 cigarettes by some authors (Doll and Hill, 1950; Watson, 1950; Wittekind and Strüder, 1953; Randig, 1954), but to 10 cigarettes by others (Sadowsky, Gilliam and Cornfield, 1953). In Rigdon's (1957) study, pipe- and cigar-smokers were not converted into cigarette-smokers by calculations such as the above. This author noted that, based on the method of Sadowsky, Gilliam and Cornfield of converting cigars to cigarettes, a man who smokes 3 cigars a day would be considered statistically a heavy smoker, since he would fall into the pack and one-half group; and, should this same man also smoke 10 cigarettes, he would be classified by Schrek and his associates (1950) as a "chain smoker."

Such calculations of "smoking equivalents" as those above are based solely—and somewhat simply—on the weight of the tobacco involved. Thus, 1 Gm. of pipe-tobacco equals 1 cigarette (Randig, 1954), and 1 oz. is equivalent to 30 cigarettes (Oswald, Harold and Martin, 1953). But the smoke from 1 Gm. of pipe-tobacco not inhaled is surely less of a pharmacological quantity than 1 Gm. of cigarette inhaled; and once again we are back to the fundamental question of "effective dosage."

With respect to other forms of tobacco-use in which the tobacco is not burned, and hence the products of its combustion are absent, "smoking equivalents" are obviously impossible, although clinical comparison between the effects of (graded) unburned-tobacco-use with those of (graded) tobacco-smoking might well prove of the greatest interest and importance. Apparently, there is no quantitative consideration of snuff-taking in the literature; and we owe to Lickint (1934) the only classification of tobacco-chewers by degree of tobacco-use: mild, moderate, heavy, and very heavy tobaccochewers were said to use, respectively, up to 2, up to 4, up to 8, and over 8 Gm. of chewing tobacco per day. In this connection, it may be mentioned that Iglauer, Simon and Rakel (1955) circularized 50 leading physicians interested in cardiovascular disease regarding their clinical experience with chewing-tobacco; the results of the questionnaire revealed little knowledge of the clinical effects of this form of tobacco-use.

"Threshold Limit" of Smoking

The converse of "excessive smoking" (with which concept tobaccogenic disease is generally linked) would appear to be "harmless" smoking, the one separated from the other by a "threshold." We may say at once there is no data bearing on this question of greatest practical importance, and such opinions as have been expressed are generally in connection with

smoking and lung cancer. With respect to the latter, some writers have maintained that there is no threshold limit below which the risk of lung cancer disappears (Hill and Doll, 1956; Edwards, 1957; Study Group of Smoking and Health, 1957), others have at least implied the existence of such a smoking threshold (Wynder, 1959; Steiner, 1956).

Any quantitative measure of the "harmlessness" of smoking is, of course, no more soundly based than an arbitrary measure of "excessive" smoking. In defining a non-smoker so far as health is concerned, H. J. Johnson (1944) implied that 6 cigarettes or 2 cigars daily might be considered harmless. Among other writers who have attempted to set such general limits, Pel (1914) believed that the average man could smoke his daily 3 to 4 cigars without endangering his health; Schlossmann (1932) stated that 4 cigars or 12 cigarettes a day should not be harmful; Poumailloux and Crouzat (1956) believed that health would not be appreciably endangered by 8 to 10 cigarettes or 3 to 4 pipes or 2 cigars daily; and da Silva (1934) advised: "Do not smoke more than 10 cigars a day-" an implication that this number represents some sort of limit of harmlessness. Romberg (1925) considered 15-20 Gm. of tobacco per day as generally harmless; and Gutierrez Muro (1934) stated that no accident need be feared when daily intake did not exceed 25 Gm. (It is always made clear that such figures refer only to healthy habitual smokers with no idiosyncrasy towards tobacco.)

J. Taylor (1905) thought the question of what is excess in smoking a very difficult one. Harmlessness in smoking is equally difficult to express in figures. Variations in individual susceptibility appear to make it impossible to answer these questions in any statistical sense, at least so far as the individual smoker is concerned. So far as the smoker himself is concerned, "excessive smoking" is that amount which gives rise to immediately apparent harmful effects; and this end-point is sufficiently clear to him and to his physician. What may not be so apparent to the smoker himself is

what can be considered "excessive" or "safe" smoking over a period of time measured in years, although here, too, the excessiveness of safety may be ultimately apparent from the end-result. Thus, if a smoker consumes his daily ration of tobacco (whatever it may be) over his entire life-span without appreciable or ascertainable harm, then his smoking can scarcely be said to have been excessive; but this conclusion, though accurate, is not predictable. In the same way, any degree of smoking which, in the end, predisposes to "tobaccogenic" disease is clearly excessive, but the excessiveness is recognized too late for prevention. For the smoker, then, there appears to be no criterion of excessive or safe smoking apart from the ex post facto result; and the question Taylor thought difficult more than half a century ago is no more easy to answer

Duration of Smoking

As we have implied in the preceding section, the duration of the patient's smoking habit is an essential part of his smoking history. In Watson's (1950) classification of smokers, moderate smokers were said to be those who consumed up to 20 cigarettes per day for 20 years or more with inhalation, and heavy smokers those who smoked 20 to 60 per day for the same time and in the same manner.

An interesting measurement of smoking, which takes into consideration both daily consumption and duration of tobacco-use, has been suggested by Leese (1956) in the course of his investigation of chronic bronchitis in smokers. He found that nearly twice as many bronchitics had smoked more than 150,000 cigarettes, compared to the controls. This figure was calculated to be the equivalent of smoking 20 cigarettes a day for more than 20 years. It may well be that such an index, produced by the multiplication of daily dosage and years of exposure, possesses a significance absent in either of the multiplicands alone. It is to be hoped that more workers will attempt expressing the smoking histories of their patients in such terms in order to test the possible usefulness of a "consumption-duration" index in the study of tobacco-related disease. The insertion of one more factor in such an index—an estimation, however crude, of "effective dosage" (as outlined above), which would be variably less than one, depending upon the patient's manner of smoking—would thus approximate the patient's true smoking history.

Gsell (1951) defined heavy smokers as those who used more than 15 cigarettes (or the corresponding quantity of other kinds of tobacco) per day for many years; and he concluded that the time of action, as well as the dose of carcinogen, are decisive for the development of lung cancer (Gsell, 1957). Duration of smoking as it relates to lung cancer is irrelevant here; the reader may consult, among others, Ochsner (1954) and Price-Thomas (1956).

To demonstrate the almost incredible elasticity of opinion regarding the time-element in the smoking habit, we may mention that Doll and Hill (1950) considered a "smoker" to be anyone who has smoked as much as one cigarette per day for as long as a year; while in their study, Moore, Bissinger and Proehl (1953) regarded men who had used tobacco (chewing) for less than 10 years as non-users for purposes of their analysis. McArthur, Waldron and Dickinson (1958) stated that the criterion for "heavy smoking now customary in medical research is said to be "two packs a day for several years;" but these workers were forced to loosen their definition of "heavy smoking" to include men with lifetime averages of a pack a day in order to include a workable number of cases.

Criteria of Non-Smoking

As we have just seen, a "non-smoker" may be, paradoxically, if not somewhat illogically, a "smoker" who has just not smoked long enough for a particular author. It would appear then, that there is a real need for some generally-agreed-upon definition of what constitutes, so far as clinical and epidemiological studies are concerned, a "smoker" and "nonsmoker." It has rightly been observed that, if a "non-smoker" is strictly construed as one who has never had any contact with tobaccosmoke, non-smokers in any civilized urban society are virtually non-existent. Not only, in such societies, is practically everyone exposed to passive inhalation of tobacco-smoke with which smokers contaminate the common atmosphere, but a very considerable number of "non-smokers" have once tried, at one time or another and for various reasons, their hand at smoking before finally renouncing the practice. We should call attention at this point to the sometimes unsuspected presence of "buried" non-smokers in clinical reports. For example, Hamilton and his associates (1957) reported that 6 of their subjects were light smokers (0 to 20 cigarettes daily). Now, a smoker of 0 cigarettes a day is not a light smoker, he is a non-smoker!

The reader may of course choose to assume that this light smoker who smokes 0 cigarettes merits his appellation because he smokes one cigar or a pipe of tobacco a day; but the reader should not be made to resolve the author's ambiguity.

Therefore, it would seem that the definition of a "smoker" by Doll & Hill (1950) as anyone who has smoked as much as one cigarette per day for as long as a year is set too low. On the other hand, the statement by Johnson (1944) that a normal healthy person smoking fewer than 6 cigarettes or less than 2 cigars daily may be considered a non-smoker, so far as his health is concerned, is surely set too high for useful definition.

One should not forget the strong probability that something other than tobacco-use determines smoking and non-smoking. Heath (1958) found certain personality traits and physiologic criteria to be different in smokers and non-smokers, suggesting that smoking is more than a superficial habit overlaid indiscriminately upon a group of men. To sum up this writer's interesting idea: a non-smoker may be something more than a man who does not smoke, and a smoker something more than one who does.

Smoking Histories

Smoking histories are usually derived from individual questionnaires, but many writers over the years have pointed out that replies to questions on smoking habits are not too trustworthy (Hoffman, 1931; Menne and Anderson, 1941; Morris, 1956; Rigdon, in discussion of Haag & Hanmer, 1957; among others). The main reason for this conclusionat least, so far as it pertains to the questionnaires usually employed-is "memory bias" (see, for example, Kirchoff and Rigdon, 1956; Rigdon, 1957; Hill, 1957); but, fundamentally, the difficulty is that smoking habits-at least, so far as they pertain to "effective dosage"are ascertainable, not through questioning, but only by observation. Thus, Cornfield and his associates (1959) have called for some objective definition and measurement of the depth and length of inhalation; but inhalation, as we have seen, is not the only factor which must be measured. It is difficult to see how "effective dosage" may be estimated by an precedure less time-consuming than that employed by Hilding in his studies: observing the smoker from the time he lighted his cigarette until he put it out; timing the cumulative time between puffs (when the subject was not smoking); recovering and measuring the butt; obtaining a control cigarette from the same package and burning it in free air for the exact time the smoker held the one he smoked in his fingers between puffs; and comparing the length of the remnant of the control with the butt that the smoker left. the difference being taken to be the number of millimeters of cigarette that the smoker had burned into his mouth—and note that this does not measure the depth and length of inhalation. In all, 28 satisfactory observations were obtained by Hilding, and this number, compared to the tens of thousands of smokers subjected to clinical investigation and epidemiological surveys, indicates the sheer impracticality of any such procedure.

The "number" of cigarettes "smoked" on a questionnaire is of far less biologic importance than the manner in which they are smoked; and it is imperative that smoking questionnaires

be extended and modified to describe the subject's smoking habit. While such an imperative is unexceptionable in principle, it is difficult to suggest any but the most general extensions (such as the invariable inclusion of a statement as to inhalation). This difficulty becomes apparent when one considers the objective studies which have been made of actual smoking habits. For example, Proetz (1939) found that the interval between puffs varied from 15 seconds to more than a minute, and that the volume of the average puff was 25-40 ml. Shepherd (1951) determined the frequency of inhalation in 50 male subjects without their knowledge, and reported that the average time between inhalations was 66 seconds. In similar studies, Laskowski (1951) found the time of inhalation to vary between 1.5 and 3.0 seconds, with 20 to 80 seconds between puffs. It would be erroneous to regard such variations as insignificant; indeed, they are of greater physiological and pharmacological importance than the difference between such questionnaire replies as "one-half pack," "one pack," etc. But it would be even more in error to "average out" such variations, and expect the average to have any significance.

Individual Variation

All of the factors mentioned above entering into "effective dosage" can, given the time and trouble, be reasonably well estimated; but there is another factor of at least equal and perhaps even greater importance than "effective dosage" in determining the ultimate response of the individual to tobacco-use. This is the patient's individual make-up—constitutional or genetic or however expressed; which is so far largely undeterminable except by its ultimate influence or effect.

The reports of many authors have made it sufficiently clear that, within reasonable limits, there is no evident or predictable relationship between the actual amount of tobacco consumed (or its effective dosage) and the quality of its effect upon the smoker, which would indicate that, unless overwhelmed by a frankly toxic dose of nicotine or other constituent, constitutional or genetic factors are of primary importance in determining the physiological or even pathological response of the smoker (see, for example, Fisher, 1958a, b; Heath, 1958).

Moreover, a multitude of writers over very many years have insisted upon recognition of the fact that men vary in their sensitivity or susceptibility to tobacco. Since there would appear to be no way of averaging susceptibility, it is obvious that each smoker must, in fact, be considered as a unique organism-as-a-whole—as, indeed, he is from a physiological no less than from a theological point of view. By the same token, and again within reasonable limits, any quantitative yardstick applied to one smoker is not necessarily valid for another.

To all constitutions, tobacco is harmful when used in excess; and to many constitutions, it is injurious in any quantity, however small (Lancet 1: 770, 1872). This statement well illustrates the two most important aspects of tobacco-use as it relates to health and disease: the degree of tobacco-use (defined ultimately as "effective dosage"), which is a quantitative matter; and the particular susceptibility of the individual user, which is a qualitative one. While we must make better attempts in the future to measure and record and report the effective dosage of tobacco or tobacco-smoke received by the user, we must remember that such measurements, however accurate, are insufficient in themselves to define the role of tobacco in disease.

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SURVIVAL IN LUNG CANCER

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KATHERINE R. BOUGOT, UTAKO HORIE, AND MARTIN J. SOKOLOFF

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Rejection of Breast Feeding

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ost articles on breast feeding or bottle feeding are based on comparisons of these two methods with regard to their effect on the health of the infants so fed. Mortality figures are studied, growth rates are charted, nutritional status is assessed and so on. Other studies attempt to show how adequate antenatal and postnatal preparation of the breasts can increase the amount of milk secreted, and how enthusiastic doctors can help mothers towards successful lactation. Very few authors, however, have used an historical or a cultural approach in a study of breast feeding, and most investigators who looked into the reasons for failure of lactation in individual mothers found fifty percent of the failures to be due to unknown causes. In the present article will be presented a possible hypothesis for the rejection of breast feeding which exists, particularly in the United States, at the present time.

In ancient times there was no thought either of acceptance or of rejection of breast feeding. All mothers automatically nursed their babies—there was no other way. If by reason of death or illness a mother could not feed her baby, the baby would be suckled by another lactating woman, or it would die. And yet, even in such societies, there was some cultural variation. It is said that in Biblical Israel, chil-

dren were regarded as a blessing and that breast feeding was looked upon as a religious obligation. Moreover there appears to be no reference to artificial feeding in the Talmud.* Yet the discovery of feeding vessels from 2000 B.C. onwards suggests the use of artificial feeding among cultures such as the Roman.¹ Before the discovery of the modern feeding bottle however, the wet nurse was the main standby in emergency infant feeding.

During certain periods of history the wet nurse flourished notably in imperial Rome, in the Athens of Pericles, in Louis XIV's Paris, and in the seventeenth and eighteenth centuries in Britain, when infant life was little valued by the majority of the people and babies were farmed out to unscrupulous or ignorant nurses and died in appalling numbers. "But breast feeding could not be made fashionable and there was an enormous demand for wet-nurses, who might be paid as much as ten guineas a quarter. The wet-nurses demanded nostrums to

^{*} The basic body of Jewish oral law consisting of the interpretation of laws contained in the Torah.

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promote the flow of milk and their mistresses demanded nostrums which would suppress it. So profitable was the profession of wet-nursing that thousands of young unmarried women deliberately sought pregnancy, knowing that their illegitimate children would be effectively disposed of by the foundling hospitals and the baby-farmers while they pursued a lucrative career. This enthusiastic pursuit of pregnancy by the unmarried reached its peak towards the end of the eighteenth century."2 In those periods of history when wet-nursing was so prevalent, great wealth and luxury prevailed among certain sections of the population and the mothers of these groups delegated their nursing functions to women of a lower social order. In the present era with the availability of adequate substitutes for breast milk, the wet nurse has been replaced by the feeding bottle, and in the United States the majority of mothers never attempt to breast feed their babies at all.

In 1948, Brain found that one-third of the babies born in the United States were weaned on discharge from hospital, and that two-thirds were on breast or mixed breast and bottle feeds.3 The California Health Survey of 1956 showed that fifty-seven percent of infants were never breast fed,4 and the New York State Survey showed seventy-six percent of babies never suckled.5 An analysis of the nursery records of the Boston Lying-In Hospital for the years 1956 and 1957 revealed that seventy-five percent of infants delivered in that institution were discharged on bottle feeding.6 Duration of nursing has decreased in a similar manner. In Biblical times babies were suckled for two to three years-in the United States today the figure is nearer two to three months for those babies who are nursed at all.

There is no simple explanation which will explain this fundamental change in infant rearing, but a hypothesis which might fit most of the facts is proposed here for further comment and research. In a society where the functions of men and women are clearly defined, each sex knows from an early age the role it is destined to play. The woman's role is usually a domestic one and includes child care and

suckling. In such communities babies are nursed almost universally and for prolonged periods. In societies where male and female roles are unclear or ambivalent, breast feeding will not flourish. Two widely differing communities have been chosen to illustrate the first part of this proposition.

In the land of the Pondos in South Africa, boys of six years begin to go out herding cattle with their older brothers. At about the same age a girl begins to act as nurse, carrying a younger sibling on her back and feeding and entertaining her charge. The maternal attitude develops very early. The little nurses of one kinship group often foregather with those of another "and it is common to see a girl of eight, with a baby tied to her back, playing tag or dancing." "From seven and eight girls go with cans to draw water, and by ten they are carrying a full-sized bucket; by eleven they can grind, by twelve they are quite efficient cooks, preparing food while their mothers are in the fields." Boys herd all day and learn about trapping and tracking early. They wrestle, race, swim and fight each other and their games develop them physically for their roles of hunter and fighter.

In this society a woman suckles her child for eighteen months to two years. Custom forbids a man to have sexual relations with his wife until the baby is weaned and to break the lactation taboo is considered a disgrace. This is an illustration of the importance of lactation in this population.

The culture of Eastern European Jewry (before the Nazi occupation) is very different to that of the Pondos, yet the roles of the sexes are no less clearly defined. "The cleavage in activity between boy and girl begins early, for he may be only three when he is carried off to kheyder† and the girl is left at home to help her mother. From then on their work and their play will be different. Even if the girl does go to school, it is for a shorter period, and shorter hours each day, and her main job is to be helpful at home." The earliest work is to tend the

[†] An elementary religious school.

babies and the following passage bears a striking resemblance to the one dealing with a similar theme among the Pondo. "When she goes out to play she carries the baby with her, 'wrapped like a cabbage' in layer after layer. When it's her turn at hopscotch, she hands the baby to a friend and then reclaims it after her jumpy tour of the plotted squares." While her brother is having lessons the girl is at home learning domestic duties from her mother. For the boy, entry into elementary religious school "marks a change in the boy's appearance as well as in his activities and his status. All are changes freighted with a mixture of deprivation and gratification, the loss of infantile privileges, pleasures and protection, the gain or rewards pointing toward manhood. The new world will be male"

In this society, suckling one's child is regarded as a rewarding and pleasurable experience for both mother and child. "Human milk is obviously far better than that of an animal, which might affect the baby's character adversely." There is widespread belief that bottle feeding is harmful. Breast milk only is given for the first six months and solids are then added. A boy is weaned earlier than a girl and a strong child sooner than a delicate one. A boy is usually weaned at one year and it is forbidden to suckle beyond the age of four years since an "Adult" is not allowed to nurse.⁸

Modern American civilization affords a striking contrast to the foregoing examples. A foreigner coming to visit or live in the United States is struck by the female addiction to the wearing of trousers from infancy to old age. For the duration of the long summer vacation it is common for a girl never to wear a dress at all unless she attends church. Men's clothing, on the other hand, tends to be more colorful and decorative than is the case in Europe and there appears to be an ever-increasing market for cosmetic preparations for men. Schooling is coeducational and there is little sex differentiation in subjects taught except for certain manual trades. Typing is offered as an elective course for boys in the Junior High School. Boys and girls do similar house chores such as dishwashing, and there are few sports, however dangerous, that women do not indulge in. Fathers are expected to take an ever-increasing share in infant rearing, to help with bathing, diaper changing, and dishwashing.

Margaret Mead stresses the fact that though girls and boys are being brought up more and more alike, the girls are faced by the dilemma of having to be good enough to get and keep a job, and yet not so good that they will not be prepared to give it up entirely for marriage and motherhood.⁹

Deutsch is convinced that by far the greatest part of nursing difficulties are psychogenic. She states that our modern society although recommending nursing tries to protect the mother's ego and at the same time preserve the biologic mother-child relationship. "Today we are witnessing an interesting cultural conflict in this field. Woman is offered increasingly great opportunities for developing her ego outside the reproductive function, while the ideology of active motherliness is exalted. As a result, woman's psychic energies can neither completely concentrate on the interests of her own individuality nor flow unhampered toward the being dependent upon her. Thus society furthers the inner conflict; woman is asked to agree to a partial renunciation, now in one direction, now in another."10

With the advent of modern civilization, even among societies where breast feeding has been completely accepted, bottle feeding is beginning to become significant, whether as a result of advertising, 'snob appeal' of canned milk products, or the availability of infant feeding bottles and baby foods.11 With the beginning swing among more primitive societies towards an interest in bottle feeding, there is a slight trend in the United States and other highly civilized societies towards a reawakening of interest in breast feeding. In a recent study in Boston it was found that the more educated women and those who were married to men of upper and middle social class attempted breast feeding more often and continued it for longer periods than did the less well educated women of lower social status.¹² A generation ago the reverse was the case.¹³ Does this mean that women, having gained political and economic freedom, no longer need to be aggressively competitive and masculine in outlook?

Breast feeding studies pose questions for the

anthropologist, the social psychologist, the pediatrician, and the epidemiologist to answer for there is no doubt that lactation is not an isolated function, but must be viewed in the light of the mother's image of herself and the role her particular culture has assigned to her.

Summary

Breast feeding is considered from a cultural viewpoint, and a suggestion is advanced which attempts to explain the reason for the present rejection of nursing in the United States.

It is suggested that in societies where the

roles of men and women are clearly defined, breast feeding flourishes, but in societies where girls and boys are brought up alike, and male and female social functions are unclear or ambivalent there will be little nursing.

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1 Shattuck Street



MEDICAL TEASERS

A challenging crossword puzzle for the physician. SEE PAGE 45a



PSYCHIATRIC TREATMENT

I. Mental Hospitals (Public)

here are about three hundred and ten tax-supported mental hospitals in the United States housing about 650,000 patients. These include about forty-five Veterans Administration (entirely psychiatric) hospitals and two U.S. Public Health Service Hospitals. Most of the remainder are administered by state governments except in Wisconsin and New Jersey where most of the mental hospitals are administered by county governments. In about a third of the states, the mental hospitals are controlled by a centralized mental health authority headed by a psychiatrist with the rank of Commissioner having cabinet status. In the remaining states, the mental health authority is vested in one of the following types of administration: Citizens Board of Control, Department of Institutions, Department of Health, Department of Welfare or a combination of Citizens Board and a State Department.

The tax-supported mental hospitals tend to be quite large, averaging 2500 bed capacity (5000 average in New York State), but tend to be smaller when under the control of county governments. The Veterans Administration policy in building new mental hospitals is now in terms of 1000 capacity. Although there is little general agreement concerning many other aspects of mental hospital operation, it is rather generally agreed that tax-supported mental hospitals are too large from a therapeutic point of view. The principal advantage

cited in favor of large size is that of economy of operation.

There are about 3,000 psychiatrists, 85,000 nurses, 1500 social workers and 750 psychologists working in the public mental hospitals. There are about 2,000 psychiatric resident physicians in training, about forty percent of whom are foreign physicians.

Over a billion dollars a year are spent for building and operating public mental hospitals. About fifty percent of the sum is for construction. Ten percent of the operating expenditures (five percent of the total) is spent for salaries of professional personnel and about ten percent of professionals work in administrative capacities. The cost of maintaining a patient per day varies from \$1.84 in Tennessee to \$10.50 in the VA hospitals, an average of \$3.18. Mental hospital operation takes a large percentage of state operating budgets. In New York State, it is thirty percent.

In practically all instances except in the Veterans Administration hospitals, a legal commitment is required to admit a patient to a mental hospital and although voluntary admissions are often possible, they were used very seldom in the past. Recently, some hospitals have encouraged voluntary admissions, feeling that the relative loosening of control over the patient is justified therapeutically. (At Central State in Indiana, one-half of the new patients are now voluntary.) Essentially all states require a petition, the examination of two physicians and the authority of a county court to make a legal

RESOURCES

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commitment. No state requires that the certifying physicians be psychiatrists. As a result, over ninety percent of commitments are made after examination by general practitioners.

Since the first appearance of state-wide mental hospital programs one hundred years ago, there has been a steady rise in the total mental hospital population. The rate of increase tends to go up during depressions and down during wars, but nevertheless showing an overall increase. Recently (1956), however, for the first time there was a slight decline in total patient population, although there was an increase in the admissions. In New York State, there has been a decline in total population for four successive years. Nevertheless, there are about 50,000 new beds under construction, just completed, or about to be built.

Although the cost per bed of building general hospitals comes to about \$20,000, mental hospitals have recently been built for sums as low as \$4,000/bed, but averaging about \$10,000. Square foot costs of building mental hospitals have (in 1958) ranged from a low of \$12 to a high of \$33, but averaging out to about \$17.

Public mental hospitals, as originally conceived during their initial period of growth (between 1845-1890) and during the first fifty years of the American Psychiatric Association, were designed for the active treatment of mental patients. Thomas Kirkbride designed the first functional hospital, and his design was widely copied. The therapeutic orientation of these pioneers was a revolt against the common practice prevailing at the time to confine mental patients in county homes and prisons where no semblance of medical care existed. After 1890, however, there developed a rapid change in philosophy characterized, in practice, by a great increase in the size of hospitals, and a sharp curtailment in patient freedom. As a result, the first fifty years of this century witnessed a reversion to a policy of mere custodial care to the extent that some hospitals, even today, do not have a single psychiatrist on their staffs (New Mexico and some of the county hospitals in Wisconsin.) None of the others except a very few teaching centers (Massachusets Mental Health Center, New York Psychiatric Institute, Nebraska Psychiatric Institute, Langley Porter Clinic) can be regarded as having much more than token trained staffs.

Recent years have witnessed a rapid increase in the percentage of foreign physicians in state hospitals. In New York State, about two-thirds of the seven hundred and seventy psychiatrists working in the state hospitals are foreign. Aside from the generally inferior medical training of these physicians, they tend to pose a disadvantage which is unique to psychiatry, and that is a language barrier with patients. One state commissioner recently reported that in his state, not a single psychiatrist, outside of hospital superintendents, spoke adequate English.

The past few years have also been marked by a steady elevation of the average age of newly admitted patients. In New York, onehalf of the new admissions are of advanced age. The presumption is that many, or most, of these patients are admitted to state hospitals only because there are no other chronic medical facilities to care for them. Although the life expectancy of patients in mental hospitals used to be lower than that for the general population (high TB and dysentery morbidity), the advent of antibiotics and elementary sanitation eliminated that distinction. In some hospitals, however, (Brooklyn State) there have been so many chronically ill patients in the older age groups admitted recently that average life expectancy has fallen again to lower levels. The Commissioner in Massachusetts was criticized by a legislative committee in 1958 because of this new trend, the reasons for which were not apparent to the legislators.

There are about 225,000 new admissions to public mental hospitals per year, of which about thirty-five percent are re-admissions. One reason for the high re-admission rate is the universal scarcity of adequate follow-up care. No single state can be said to have even a remotely adequate follow-up program. One of the striking factors contributing to the low discharge rate (about 200,000 per year) is the absence of interested members of the patients' family who could share some responsibility for the patient after discharge. A recent study in a Pennsylvania hospital revealed that a fourth of the patients who had been hospitalized at least two years had never had any contact whatsoever with anyone on the outside. A training school in New England reports that one-fourth of the parents who committed their children moved out of the state subsequently, thereby abandoning the children.

Probably about a third of existing buildings in state hospitals (not VA, though) are obsolescent, and unsafe in respect to fire hazard. Also, over a third are overcrowded. These two conspicuous factors bring great pressure to bear to build new, and to replace old, buildings. With the recent advent of decline in total hospital population, it would seem that now is an appropriate time to postpone construction until the apparent trends become better clarified. Chances are that mental hospitals now are in the position in which TB and contagious disease hospitals found themselves twenty to thirty years ago. At that time, an increasing demand for hospital service was developing alongside improved treatment. The latter development advanced so well, that many of these hospitals are now being closed down,

even though some of them have just recently been built. Similarly, there is a very good likelihood that, in spite of the apparent increase in demand for mental hospitals, that new and improved therapeutic approaches will drastically lessen the need for additional bed space. There is a very good possibility, also, that the existing obsolescent buildings can safely be abandoned without renovation or replacement as a way of reducing the size of existing institutions.

II. Private Psychiatric Hospitals

There are so many, and such important, variations in the administration of private psychiatric hospitals that it is difficult to make many generalizations concerning them. It is essentially impossible, even, to count them, for many which are called hospitals are nothing more than nursing homes. About two hundred institutions are generally listed as private psychiatric hospitals, and most are members of the Association of Private Psychiatric Hospitals. It would be reasonable to restrict the term psychiatric hospital to facilities which are administered clinically by a minimum of one full-time qualified psychiatrist.

In contrast to the tax-supported hospitals, the private ones are invariably small, having an average of seventy-five beds (19,000 total beds) and range in size from twenty beds to a few hundred.

Administratively, the private hospitals will be found to fall into the following general categories: (1) Non-profit ownership by a philanthropic foundation (Sheppard Enoch Pratt); (2) Business management by private investors expecting profit, or (3) Ownership by an individual psychiatrist or group of psychiatrists who wish to provide hospital facilities for their own practice (Chestnut Lodge).

The majority of private hospitals which developed during the past twenty years have become strongly identified with the almost exclusive use of electro-shock or insulin coma in their therapeutic approach. A few of them (Chestnut Lodge, Austin Riggs Center, Hillside, and Menninger Foundation) have been

closely associated with a classical psychoanalytic approach to patients. The former tend to have relatively small, and the latter relatively large staffs. The former often permit private psychiatrists to care for their own patients in the hospital. Some of the older private institutions (Institute For The Living, Sheppard Enoch Pratt) have long been identified with a high level of psychiatric training and a less specialized therapeutic orientation.

Private hospitals are responsible for some of the innovations in American psychiatry. For example, the Austin Riggs Center in Stockbridge, Massachusetts, was the first really "open" hospital in the U.S.; Chestnut Lodge and Sheppard Enoch Pratt were the hospitals where far advanced schizophrenics were first approached therapeutically with psychoanalytic techniques (Frieda Fromm-Reichman, and Harry Stack Sullivan); Stoney Lodge in Ossining, New York, first tried insulin therapy in the U.S.: the Pennsylvania Hospital in Philadelphia was the first functionally designed hospital (Kirkbride). One private hospital (Silver Hill, Connecticut) handles only psychoneurotic patients in a completely "open" hospital. Some of the private hospitals have been set up by religious denominations, particularly Catholic, Jewish and Mennonites. (The original Pennsylvania Hospital was established by the Quakers in the 1750's.)

Many private hospitals make a fairly sharp distinction between acute and chronic patients, often providing separate buildings and charging different fee schedules. In general, the cost to the patient for private hospitalization is fairly high (minimum of around \$75 a week to a maximum of \$400) with an average of around \$150 a week plus certain extras. Investigation of one two hundred bed private hospital in the East revealed that in 1957 it cost the hospital \$140 per week to care for a patient.

The wide spread use of electro-shock in private hospitals made them appear fairly profitable during the past twenty years. Recently, however, hospital costs have been rising faster than the amounts which can be charged patients, and they seem less profitable now. Some

of them have converted to non-profit corporation or foundation status and seek public or philanthropic funds to help support them.

Private hospitals can show a much better patient turnover than can the public hospitals. Last year the private hospitals handled about 75,000 new admissions (one-third the number admitted to public hospitals) even though they had less than five percent of the bed capacity. One reason for this is patient selectivity, but not according to diagnostic criteria. Private patients will almost invariably have superior rehabilitative resources in the way of money and family than the patient admitted to public hospitals. There is also better follow-up care through the maintenance of contact with hospital staff or referring psychiatrist.

Because many convalescent homes have accumulated considerable numbers of psychiatric patients, and sometimes manage to offer some sort of psychiatric supervision, they have sometimes come to be known as private psychiatric hospitals, and sometimes without adequate justification. The inadequacy of state control and standards in some states fosters this development. Unfortunately, on the other hand, some of the state control systems which are in effect tend to put more emphasis on security safety measures than on professional standards. In recent years there has been a growing tendency for urban communities to prohibit the establishment of private psychiatric hospitals, by means of zoning restrictions.

Average periods of hospital stay in private hospitals is in the order of one to three months, compared with an average of three years in state hospitals. Re-admission rates are about the same, however, (about one-third).

III. Psychiatric Services in General Hospitals

Of the five thousand four hundred general hospitals in the United States, about six hundred have recognizable psychiatric services. There is a growing awareness of the need to include plans for psychiatric services in the new general hospitals being planned. Attempts have been made to use Hill-Burton construc-

tion funds as a way of putting pressure on hospital planning groups to include plans for such services.

Although there is no such requirement spelled out in the administration of Hill-Burton funds, there is an influence exerted through recommendations that psychiatric services be provided.

Some of the city and county general hospitals have quite sizable psychiatric units of one hundred to three hundred beds, usually in separate buildings, and would almost qualify as mental hospitals. The voluntary and proprietary general hospitals tend to have much smaller units of six to fifty beds, and these units tend to be less autonomous than the public general hospital units. The total number of beds for psychiatric patients in non-federal general hospitals is about 9,000 of which thirty percent or more are in the nine largest (Los Angeles County, D.C. General, Cook County, St. Louis County, Jersey City, Kings Country, Bellevue, Philadelphia General and St. Francis in Pittsburgh). About one hundred federal general hospitals (military and VA) have a total of about 10,000 psychiatric beds, or an average of one hundred beds. To a large extent, the large municipal units act as receiving and screening centers for the state hospitals, and tend to offer little in the way of treatment. Bellevue, for example, with over six hundred beds on the psychiatric service has been forbidden by city law from offering treatment. The larger municipal psychiatric units, however, are generally important training centers, and are usually affiliated with medical schools. It is particularly significant to note that the number of beds in general hospitals of all types is only about three percent of the total psychiatric beds in the country, ninety-five percent of which are in public mental hospitals.

Last year (1959) the number of psychiatric patients admitted to the psychiatric services of general hospitals slightly exceeded the number admitted to the public mental hospitals (a quarter of a million). Probably about twenty percent of these were discharged by transfer to state hospitals, meaning that the same group

of 40,000 patients were included in both admission lists.

There is so little uniformity in administrative practices among the various psychiatric services that very few generalizations can be made. Many of the smaller voluntary and proprietary hospitals allow private physicians to care for their own patients on psychiatric services with essentially no other kind of control. middle-sized group of voluntary hospitals often have a full-time director and staff which handles the care of patients exclusively or in cooperation with private physicians (St. Vincent's, Michael Reese). Some of the quite large voluntary hospitals (Mt. Sinai, New York Hospital), have extensive full-time and volunteer staffs, often with extensive training programs. The most progressive hospitals have psychiatric directors comparable in status to the chiefs of medicine and surgery.

Average length of stay in general hospitals is generally from one to four weeks. This factor makes possible a much greater turnover than that which is seen in the public mental hospitals. Costs of maintaining patients per day are comparable, or somewhat less, than the cost of maintaining medical patients (from \$15 to \$25 per day). A serious handicap standing in the way of full expansion of psychiatric services is the discriminatory clauses in hospitalization insurance contracts. In Pennsylvania, the state is empowered to pay general hospitals for the care of indigent psychiatric In Oklahoma, the state has authorized a similar plan but has not provided money for it yet.

There is a marked tendency, typical of the past and still prevalent, to look upon the psychiatric units of community general hospitals as an adjunct of local jails for the handling of alcoholics and police cases. When this attitude is dominant, these psychiatric services are heavily loaded with security provisions. Some even have police guards and courtrooms (Bellevue, San Diego County Hospital). When such attitudes determine local policy, those units seldom become legitimate psychiatric treatment resources. The frequency with

which alcoholics and police cases occupy space in local units often determines the reputation which the service enjoys in the minds of the public, and the reputation achieved is seldom conducive to attracting the most treatable patients.

The military and veterans general hospitals have tended to develop fairly high quality psychiatric services, often with extensive full-time staffs which can provide complete treatment programs. The smaller units in the voluntary hospitals usually offer no over-all activity program, but treatment generally becomes an individualized matter between a private physisician and his patient.

Many of the newly organized units (Massachusetts Memorial) make effective use of the "open door policy," and have managed to prevent the service from becoming a dumping ground for the unwanted patients of other services. An adequate follow-up service, either through hospital out-patient departments, or through effective liaison with private psychiatrists is an essential adjunct to a well-run psychiatric service.

Only a few pediatric hospitals have provided separate psychiatric services (Children's Hospital in Washington, D. C.), although more of them have psychiatric staffs without separate beds. The latter plan is often quite effective. In those pediatric hospitals where training is going on, an active psychiatric service constitutes an important part of the training program for pediatricians.

One of the most important decisions to make in the establishment of new psychiatric services in general hospitals is the question of "closed" versus "open" services. When the policy decided on is for the former one, there is likely to result a sharp curtailment of the type of patients which can be attracted. For the larger units (thirty beds or more), another essential decision to be made is the question of providing a full-time psychiatric director. The importance of providing a coordinated activity program for all patients on a service makes necessary a certain amount of overall direction, even though the responsibility for individual

treatment may rest with part-time or volunteer physicians.

IV. Outpatient Clinic Psychiatry

In 1955, the National Association for Mental Health, in cooperation with the National Institute of Mental Health, listed eleven hundred and seventy psychiatric clinics in the U. S. Actually, there were substantially fewer than this which were independent and in actual operation. Many traveling clinics were listed as several separate clinics. The real total was probably around nine hundred. Since 1955, however, there has been a rapid expansion of mental hygiene clinics, so that the total in operation at the end of 1958 was probably around twelve hundred.

The existing mental hygiene clinics are specialized along the following lines:

- 1. A large number of listed clinics are the outpatient departments of state and veterans hospitals, sometimes located within the hospital, and often located in communities distant from the hospital. They are frequently not fulltime clinics but are more likely to be available to the public on certain days of the week or month, and most often staffed by visiting personnel from the parent hospital. The state hospitals, particularly, employ their outpatient clinics for follow-up of discharged patients, and are frequently staffed solely by social The Veterans Administration, on the other hand is more likely to provide fulltime clinic service by a staff assigned exclusively to the clinic, and generally do not restrict service to follow-ups.
- 2. Another discrete group of clinics is made up of the psychiatric or psychosomatic outpatient departments of general hospitals. They sometimes use full-time professional personnel to staff them, but more often rely on volunteer psychiatrists' time. As part of the hospital's outpatient department they usually serve primarily as a referral resource from the other specialties. There is usually more emphasis on psychiatry and less on social work in these clinics, although social work often plays an essential role.

- 3. Another large group is the community mental hygiene clinic which is not connected to any hospital. This is the group which is expanding the fastest, under the impetus, both, of public funds, and local community enthusiasm. The concept of the psychiatric "team" is most highly developed in these clinics, and both psychology and social work play prominent parts in their operation. It is interesting to note that the idea of the "team" approach developed in the army during World War II as a way of spreading scanty psychiatric time over a wider area. It was definitely a compromise, then, but has come to be regarded as something desirable. There are really few examples where a genuine "team" approach has worked out successfully. In most instances, where there is a team set-up, each of the three principal professions tend to work rather independently, with a marked tendency to shift treatment responsibility to the non-medical
- 4. In addition, there is quite a number of specialized clinics covering such areas as: treatment of emotional problems of children, alcoholics, the mentally retarded, vocational rehabilitation, epileptics, psychosomatics, etc.
- 5. Still another class of clinics are those operated by various agencies, such as public schools, colleges, industries, charitable organizations, etc. The clientele of these clinics may come from the sponsoring organization, such as the school, or from the community. These tend to be small, part-time services, often with no psychiatric direction. Some of them are purely psychological testing centers.

It would be impossible to arrive at a reasonable estimate of the number of patients serviced in the clinics of this country. Many of the ones on the clinic books are those which are also on the admission or discharge lists of hospitals, or other psychiatric facilities. The great advantage of the clinic is making psychiatric services available to the patient outside of institutions, and if oriented to the pre-hospital patient instead of only the ex-hospital patient, can perform very effective preventive functions, as far as preventing prolonged hospitali-

zation is concerned. The availability of the clinic is the feature which renders it most useful. The problem of staffing good outpatient clinics is considerably easier than that of staffing mental hospitals. In the first place, the clinic has access to the part-time assistance of private psychiatrists. In the second place, clinic work tends to be more popular with all the professional personnel (except psychiatric nurses who generally do little in the clinic arrangement).

V. Private Practice of Psychiatry

In 1958, there were about ten thousand five hundred members of the American Psychiatric Association, of which about four thousand five hundred were Diplomates of the American Boards of Psychiatry and Neurology and about eight hundred were trained psychoanalysts. Of the total A.P.A. membership, about 4,500 were in full-time or nearly fulltime private psychiatric practice. These included nearly all those with analytic training, and probably a higher percentage of board members were represented in this group than in the remaining six thousand psychiatrists. Another three thousand five hundred were working in public mental hospitals. Probably less than ten percent of the total A.P.A. membership was working full-time in other capacities, such as teaching, general hospitals and full-time clinic practice. About ten percent of the total were probably engaged in part-time private practice in addition to those in fulltime practice.

The private practice of psychiatry is a relatively recent development, having undergone its major expansion after World War II. About one-third of all private practicing psychiatrists are located on the Boston, New York, Philadelphia, Baltimore and Washington axis. There has been a marked tendency for psychiatrists to go into private practice in areas near the principal training centers, particularly the analytic training centers. This trend results in an extreme imbalance in the distribution of private practitioners, so much so, in fact, that some areas are probably over-supplied. The

reasons for this include the following:

- Psychiatrists tend to congregate in areas where they are already heavily represented in order to remain a part of the professional community.
- It is a common practice for psychiatrists, during their last year or so of training to take on a few private patients. This practice tends to commit them to remaining in that area after completion of training.
- Areas in which psychiatrists have been heavily represented for a long time tend to offer a better public acceptance of psychiatry, making it easier to build up a private practice.
- Psychiatrists rely on referrals to build up their practice, and initial referrals frequently come from the surplus patients of the instructors these psychiatrists work with during their training. This particularly applies to analysts.
- Psychiatrists tend to practice in the state in which they first receive a license to practice, and are not as likely as other physicians to take examinations for licenses in other states. Since they are likely to take their initial state board examinations during their early training periods, and in the same state, this tends to result in their practicing in the same state in which they are trained. One of the small things which might be done to encourage the better distribution of psychiatrists would be to make it easier to obtain state licenses by reciprocity.

Psychiatrists in private practice can be very correctly divided into two distinct categories in respect to their therapeutic practices. One group consists of those who received their psychiatric backgrounds in state hospitals where their training, only too often, was exclusively oriented to organic treatment approaches. This group often go into private practice for the almost exclusive purpose of restricting their therapeutic approach to electricshock and similar techniques. Unfortunately, this group tends to be inadequately trained, and their exclusive preoccupation with one mechanical procedure tends to discredit the specialty of psychiatry in the eyes of the local medical public. This is not meant to indicate that state hospital training is generally inadequate, but only that physicians who take salaried positions in state hospitals for a few years find it possible to become recognized as psychiatrists without having gone through a genuine training program. One thing which can be learned quickly under such circumstances is the administration of electric-shock, and some physicians regard this as adequate experience for setting up a psychiatric practice.

The other major category of private psychiatrists is made up of those who have either completed psychoanalytic training, are undergoing such training while establishing themselves in private practices, or are principally oriented toward psychotherapeutic techniques. A large percentage of these psychiatrists employ mostly psychotherapeutic approaches in their practice. Many of them also serve as part-time consultants or instructors for training centers, clinics, public schools, social service agencies, etc. There remains another small group of psychiatrists who combine the practice of neurology and psychiatry, work largely in a consulting capacity or do mostly forensic psychiatry.

It is estimated that the average psychiatrist in private practice sees about ninety new patients each year, while continuing to treat a backlog of some two hundred which initiated treatment during prior years. In contrast, the psychiatrists who work in the N. Y. State hospitals see an average of thirty new patients per year while caring for a backlog of some one hundred and fifty. There seems to be a definite trend for psychiatrists with analytic training or inclination to treat patients less frequently and over shorter periods of time than was typical of the classical analyst. This is probably due, both to an increase in the skill of these therapists and to a tendency for patients to be more cooperative as a result of increased acceptance of psychiatry. It is probably meaningless to estimate averages, but more meaningful to group patients into distinctive categories in respect to time spent in treatment. Perhaps a third or so of patients

who see private psychiatrists make less than five visits. Many of these are seen only once or twice in consultation, and are then either referred back to the family physicians, or feel they have received sufficient psychiatric help. Another third of the total undergo a more or less "standard" course of therapeutic visits which would probably average out to about fifty hours. The last third of the total undergo much longer, or indefinite courses of treatments which may go on with various interruptions, for several years. About three hundred thousand new and six hundred thousand old patients are seen annually by private psychiatrists. In contrast, two hundred thousand new and five hundred thousand old patients are cared for by psychiatrists in institutions.

A feature of common interest as it pertains to private practice is the cost of the patient of private treatment. In spite of many allegations to the contrary, few patients pay more than \$20 per visit to private psychiatrists, and the average during 1958 was probably about \$15. The fees tend to be higher in the major cities than in suburban areas or small towns, and higher in California than New York. Using the above classification of patients which estimates the number of visits, it could be a reasonable guess that one-third of the patients spend \$50 or less for their psychiatric contacts, another third spend a total of about \$750, and the other third spend \$1200 or more, spread out over a few years.

Partly, at least, because of the isolation of private practice, and a tendency for it to become somewhat monotonous, private practitioners are likely to seek part-time consulting or teaching work. Schools, courts and social service agencies frequently seek part-time psychiatric assistance. In addition, private psychiatrists frequently work on a volunteer or part-time basis in clinics and general hospitals.

State hospitals have made relatively little use of psychiatrists in private practice, although some noteworthy experiments have been conducted (Topeka State, for example). Except for the classical analysts, the private psychiatrists of the 1920-30-40's tended to ad-

mit many of the patients who came to them to private or public psychiatric hospitals. This practice is diminishing rather noticeably, however, and, today, it is becoming rather uncommon for private psychiatrists to hospitalize patients. A partnership group of private psychiatrists in N. Y. State, for example, who saw an average of three hundred new patients each year for an average of eight thousand visits per year admitted only five patients to hospitals in the past four years. It is a fairly consistent finding when a given community builds up a sizable group of well-trained, psychotherapeutically oriented psychiatrists in private practice that there results a sizable drop in the hospital admissions from the area. The older type of private practice, on the other hand, tended to produce an increase in admissions since there was a greater tendency twenty years ago for psychiatrists to rely on hospital care.

One of the greatest values which the private practice of psychiatry offers is the improved public relations which results from psychiatrists working more closely in community affairs than the institutional psychiatrists have done. Larger and larger numbers of people are acquiring less fearful attitudes toward psychiatry through the opportunities presented in the past fifteen years of seeing the work of private psychiatrists. As a result, patients in the more sophisticated areas are beginning to seek psychiatric assistance for relatively mild conditions, whereas it was uncommon in the past for the public to seek a psychiatrist until the problems had reached a state of major proportions.

VI. Child Psychiatry (Non-Institutional)

Child psychiatry, as a sub-specialty, has been clearly recognizable only during the past twenty years or so. To date, there are only about two hundred psychiatrists who devote themselves to full-time child psychiatry, about half in institutions and half outside. Non-institutional child psychiatry consists, mostly of: (1) Private practice, (2) Clinic practice, and (3) School and social welfare agency work.

Private practice is the smallest category.

A move started about twelve years ago which is still in the early struggling stage to have the practice of treating children recognized as a clearly distinct specialty, or subspecialty. Those who advocate this feel that standards and qualifications distinct from those required for general psychiatric specialists should be established. They often advocate the setting up of a separate American Board of Child Psychiatry. Some other psychiatrists have disapproved of this movement, feeling that it would foster an artificial separation of younger and older patients on a basis not related to clinical realities. Furthermore, they sometimes point out, such a move would tend to make essential training in one field unavailable to those intending to go into the other. In the same way, the development of plastic surgery as a sub-specialty has often been effective in making it difficult for the general surgeon to get training in that area.

Child psychiatry has been much more closely identified with social work and psychology than have the other phases of psychiatry. Many child psychiatrists work in clinics or agencies where they are essentially subordinate to these other professions. The unconventional nature of this sort of relationship has horrified some leaders in psychiatry. To others, this has represented a desirable disruption of the traditional autocracy of medicine. One prominent professor of psychiatry has stated, critically, that the child psychiatrist has become the captive of the social worker. On the other hand, child psychiatry has not acquired a reputation for letting itself become corrupted into accepting mechanical or chemical procedures

as the sole method of attempting to rectify psychological problems. The therapeutic emphasis in child psychiatry has been most heavily oriented along the lines of psychotherapy and environmental manipulation.

A basic controversy in the field of childhood psychiatric problems is whether to direct the therapeutic attack to the child or to the parents. Those who are known as child psychiatrists generally place the emphasis on treating the child. Those psychiatrists, on the other hand, who were originally interested primarily in childhood problems, but who found it more successful to treat the parent than the child, have not become known as child specialists, since they seldom see children. Some of them feel, nevertheless, that their prime concern is with the child. Those who do spend most of their therapeutic time with the child often rely on social workers to guide the parents, or to interpret treatment to them.

The number of children directly treated per year by psychiatrists outside of institutions includes probably about fifteen thousand new and twenty-five thousand old patients. A large proportion of these are handled in clinics, many of which are outpatient departments in various kinds of hospitals. There is probably about an equal number handled by non-medical resources (social workers and psychologists). The magnitude of these non-medical resources has often resulted in creating the impression in the minds of the public that these other professions, rather than psychiatry, are the logical ones to turn to for help with children.

Wisconsin and Western Avenues

The conclusion of this article will appear in the May issue.



Common | Foot Problems

A review of some of the common foot problems and a discussion of the best methods of treatment are presented.

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oot problems are often of major concern to the physician and patient because of the disability they produce. One has often heard the statement that as the foot feels so does the patient. A painful foot can completely disable a patient by preventing ambulation, and, in the process, render him unable to earn a living. The purpose of this paper is to present some common foot problems and the mode of treatment appropriate to each.

Interdigital Neuroma (Morton's Toe)

This is not an uncommon cause of severe pain in the foot. Patients complain of severe sharp pain between the third and fourth toes or the fourth and fifth toes. They will often state that they must remove their shoes when the pain comes on even if walking in the street. The pain is related to walking and women have more difficulty when wearing high heels. On clinical examination there may be some hyperesthesia between the involved toes which can be determined by the use of a pin and cotton comparing all the toes for pin prick and light touch. Often compressing the metatarsal arch with the toes flexed will reproduce the pain. The interdigital nerve passes between the metatarsal heads and is traumatized, becoming swollen and producing pain. Treatment may be approached in a conservative manner at first by the use of a metatarsal bar or pad combined with contrast soaks of hot and cold water. L. Cozen has shown that the local injection of the interdigital nerve between the metatarsal heads with Xylocaine® and hydrocortisone may produce good results in a number of patients. If these methods fail, excision of the bulbous portion of the interdigital nerve through a small dorsal incision will produce a cure. Placing the incision on the dorsal surface instead of the plantar surface will prevent a scar on the weight bearing portion of the foot which may remain tender. It is wise to tell the patient that an area of numbness will be present between the toes following removal of the nerve.

Painful Heel: (Plantar Fasciitis, Bone Spur)

This can be a painful disabling condition producing pain in the region of the heel. The patient complains of pain in the heel and usually points to the pad on the plantar surface. Pain is increased by walking and relieved by rest. On examination of the foot an area

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of localized tenderness can be noted at the insertion of the plantar fascia to the os calcis. Roentgenograms may reveal a bone spur on the os calcis at the fascial attachment, but this is probably a secondary response of the periosteum to recurrent irritation. Injection of the tender fascial attachment with Xylocaine and hydrocortisone will produce dramatic results. Warm soaks twice daily following injections also assist the healing process.

Tenosynovitis

A sterile inflammatory process may involve the peroneal or posterior tibial tendon sheaths secondary to trauma. The patient may recall a recent ankle sprain or may give no history of trauma prior to symptoms. The patient's pain will be increased by turning the foot in (inversion) or turning the foot outward (eversion) as the tendon slides through the inflamed sheath. Local thickening and swelling may be apparent beneath the malleoli and along the tendon sheath with marked tenderness. Injection of the tendon sheath with Xylocaine and hydrocortisone will often relieve the patient. In chronic cases, splitting the tendon sheath in a longitudinal direction will often give dramatic relief.

Gout

The problem of gout as a cause of foot pain is often overlooked in the differential diagnosis unless it involves the great toe. However, gout may involve any of the tarsal joints producing the appearance of an acute cellulitis. A recent case serves as a good illustration of this problem. An elderly white female was seen complaining of pain in her foot. She had been seen by a number of specialists without improvement in her pain or swelling. On taking a careful history a previous episode of unknown foot pain in the other foot was elicited. A brother had a history of gout. On examination the foot was warm, tender, swollen, and appeared red along the dorsum of the foot. On laboratory examination, the serum uric acid was elevated and within twenty-four hours on colchicine the patient was cured. This case shows that gout may involve other joints in the foot, and may present with the rubor, calor, and dolor resembling an infection. Colchicine is a very good therapeutic agent to use in suspected cases. The patient may be maintained free of symptoms and recurrent attacks by the use of Benemid.®

Metatarsalgia

Pain in the ball of the foot or metatarsal arch is seen frequently. A thick callus is present in the region of the second or third metatarsal heads and is very tender to touch. The usual cause of this callus is the loss of the normal metatarsal arch. The weight distribution in a normal foot is distributed among the metatarsal heads with the greatest amount present on the fifth and first metatarsals. With the falling of the metatarsal arch, the second and third metatarsal heads receive an increasing amount of weight and painful calluses develop. The problem of relieving the patient is approached by removing the additional stress through the use of a metatarsal pad in the shoe or a metatarsal bar on the sole of the shoe. Shaving down the callus with a pumice stone will be of value along with the appliances described. If conservative measures fail, surgery can produce good results in selected cases by recessing the metatarsal head or by removing it.

Achilles Bursitis

Involvement of the bursae beneath the Achilles tendon is frequently a cause of swelling about the back of the heel producing difficulty in wearing shoes. Occasionally, rheumatoid arthritis may involve this bursa and produces a tender enlarged area between the Achilles tendon and the os calcis. A careful history, sedimentation rate, and latex fixation test may help to differentiate this condition from a nonspecific bursitis due to ill-fitting shoes.

Treatment with local injections of Xylocaine and hydrocortisone as well as using a heel lift inside the shoe may cause the acute non-specific bursitis to subside. In chronic cases,

with a large painful bursa, excision of the bursa and the superior posterior aspect of the os calcis will completely relieve the patient.

Ingrown Toe Nails

This is a very common disability which patients develop. It is usually produced by indiscriminate cutting of the nails by trimming the corners back. Patients are seen with pain and swelling due to secondary infection. Soaks,

antibiotics, and lifting up the corner with some sterile cotton or gauze will cause the infection to subside. In difficult cases the nail may be removed under local infiltration with Xylocaine of the digital nerves. This will give the patient relief from his symptoms for a number of weeks to months. The disability is minimal. In severe recurrent problems, excision of the nail matrix is necessary to prevent regrowth of the nail in an improper manner.



CLINI-CLIPPING

DIFFICULT LABOR

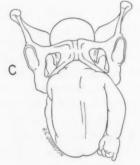
DUE TO ABNORMALITIES

OF POSITION OF FETUS

- A. Prolapse of Arm and Elongation of Neck
- B. Birth of Anterior Shoulder and Buttocks
- C. Birth of Body







WHAT IS ECZEMA?

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Dermatologists are often so interested in the many rare dermatoses with long and impressive names that they are apt to forget that two groups of diseases account for about fifty percent of all patients seen at a dermatological clinic. I refer to the omnipresent Warts, and to those conditions classified under the terms Dermatitis and Eczema.

To many lay people, the diagnosis dermatitis inevitably and irrevocably implies an industrial disease, so that either compensation is paid for a non-industrial complaint, or the patient acquires a lasting grievance that his claim has been refused. The word eczema, on the other hand, to the average person, conjures up something mystic and terrible, though what is meant by the term eczema they have not the least notion.

Used by themselves, the words eczema and dermatitis mean little—they must be qualified by adjectives which explain the etiology. To call a disease merely dermatitis or eczema indicates a regrettable lack of knowledge or an even more regrettable lack of curiosity on the part of the doctor. The word dermatitis means nothing more than inflammation of the skin and is used with more or less appropriate adjectives to describe many diseases which do not properly belong to the eczema-dermatitis



FIGURE I Phenobarbitone Drug Eruption simulating Nummular Eczema.

group. One can think of many dermatoses labelled dermatitis which do not belong to this group e.g. Dermatitis artefacta in which the lesions are self-inflicted by the patient, who is either an hysteric or a malingerer. Again, Dermatitis Medicamentosa (Fig. 1) or drug eruption may or may not be eczematous in character-it may consist merely in pigmentation, for example. Another example is dermatitis herpetiformis, not a dermatitis and often not herpetiform, and thus reminding one of the British dignitary, the Lord Privy Seal, who is usually neither a lord, a privy, nor a seal. Dermatitis herpetiformis actually belongs to the chronic bullous diseases of which pemphigus is the most sinister.

On the other hand, the mistaken diagnosis

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of dermatitis may be applied to other conditions such as scabies, lichen planus, erythema multiforme, Reiter's disease, tinea, etc., and thus permanent damage may be done to the skin with unsuitable therapy.

Dermatitis means "inflammation of the skin" and therefore includes not only all eczematous reaction but also Traumatic Dermatitis, in which the reaction is due to a physical or chemical reaction, with no true sensitivity, e.g. denudation of the skin by alkalis, or the blister produced by carbon dioxide snow. To dermatologists, the use of the word eczema implies a sensitization of the skin to some exogenous or endogenous substance, and the distinct possibility that permanent cure will be difficult to attain. Its name is derived from the Greek "ekzeo," meaning a boiling out or bubbling over, no doubt referring to the vesicles which are such a characteristic feature both clinically and histologically.

We doctors always like to classify diseases neatly into pigeon-holes which serve a useful purpose, though only too often there is overlapping; a patient frequently is affected by more than one type of eczema at the same time e.g. an atopic person can readily develop a contact dermatitis or an infective eczema. Although this classification of the eczema-dermatitis group does not include every type it offers a practical working basis, for the purpose of diagnosis and treatment.

- I. ASTHMA-ECZEMA (Atopic Dermatitis)
 - A. Infantile Eczema
 - B. Besnier's Prurigo
 - C. Pompholyx

II. NEURODERMATITIS

- A. Circumscribed Neurodermatitis (Lichen Simplex Chronicus of Vidal)
- B. Exudative Neurodermatitis
- III. SEBORRHOEIC DERMATITIS (Flexural Infective Eczema)
 - A. Infantile form
 - B. Adult form
- IV. INFECTIOUS ECZEMATOID DERMA-TITIS (Post-traumatic Infective Eczema) including Follicular Infective Eczema (Bockhart's Impetigo)

ETIOLOGICAL FACTORS IN ECZEMA

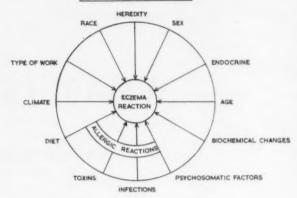


FIGURE 2 Etiological factors in Eczema.

V. CONTACT DERMATITIS

- VI. NUMMULAR ECZEMA (Discoid Eczema)
 - A. Asteatotic type, mainly affecting the limbs
 - B. Other types, including discoid eczema of the trunk in the elderly, and the patchy eczema of the hands in young women.

What mechanisms are involved in the production of an eczematous reaction? Many are yet unknown, but within recent years, thanks to the advances in biochemistry, some of the factors are being revealed, in addition to those which have been long understood. Figure 2 illustrates some of them.

In ASTHMA-ECZEMA heredity and stress appear to be more important etiological factors than any others. These patients may have inherited from one or both sides of their family some slight molecular change in the desoxyribonucleic acid of their chromosomes, which renders their skin liable to react abnormally to stresses, and with this they are born with a dry skin which tends to become pruritic when exposed to cold weather, other desiccating influences or rough garments. It is probably no coincidence that people with dry skin can develop a build-up of static electricity up to 1000 volts.¹

The stresses influencing such an eczema subject are many and varied. They may be physi-



FIGURE 3 Pompholyx.

cal-for instance, the exacerbation which often occurs after puberty, and the subsidence in old age; or the severe relapse occurring after an illness such as influenza. More often, the stress is an emotional one, even in cases of infantile eczema, as has been demonstrated by psychiatrists and dermatologists such as Rogerson² and Williams.3 The latter rightly emphasizes the curious mother-child relationship in such cases, persisting well into adult life, and it is notable that these individuals have a particularly sensitive nervous system and frequently a high intelligence quotient. Their original creative minds are often frustrated by the normal disciplines of civilized life. In 1936 Grant, Comeau and Pearson4 showed that emotional stimuli alone could release acetylcholine at nerve-endings and produce urticaria; the finding of Nachmansohn⁵ that intra-cellular acetylcholine and acetylcholinesterinase were required for the generation of electric currents to propagate nerve impulses gives a further clue to the production of cutaneous lesions and of itching through the emotions alone. Much other work has been done, and will be done, by the biochemists to shed light on the complex enzyme systems which play as important a part in the skin as in other organs. In fact, it is likely that most, if not all, eczematous erup-



FIGURE 4 Circumscribed Neurodermatitis.







FIGURE 6 Seborrhoeic Dermatitis, showing flexural infective lesions and seborrhoeic warts.

FIGURE 7 Seborrhoeic Dermatitis with Streptococcal lymphoedema of ear.



tions are essentially due to interference with this complex systems of enzymes and their cofactors, by some toxin from without or from within.

Although climate, racial background and type of employment all play an important subsidiary part in asthma-eczema, it is doubtful whether diet plays any role whatsoever; although these people may occasionally have an urticaria due to some food, it has yet to be proved that any form of dietetic restriction or addition has any real influence on the eczema (Fig. 3).

Much the same can be applied to Neuro-Dermatitis, for there may be an hereditary predisposition, and there is often a history of emotional stress, while the disease often vanishes in a different climate, and endocrine factors such as the menopause precipitate the disorder in many cases. No one has yet explained why the skin in these two groups would have a particular tendency to lichenify with rubbing and scratching, whereas this does not readily occur in other people (Figs. 4 and 5).

The name Seborrhoeic Dermatatitis has frequently been criticized, because the disorder can occur in folk who show no excessive secretion of sebaceous material, though possibly it is not such a misnomer after all. Hodgson-Jones, MacKenna and Wheatley⁶ found that the average sebum levels were much the same in seborrhoeic patients as in other cases, but that there was an alteration in the metabolism of the former, while Scott⁷ demonstrated that the radioisotope S³⁵ was in seborrhoeic dermatitis concentrated just above the basal layer and showed an intracellular concentration, unlike normal skin.

In fact, we have here a form of infective eczema involving a particular type of skin, abnormal by inheritance, diet and other factors, and with a predilection for the flexures in which the organisms, whether streptococci, yeasts or others, find a pH suitable to their requirements (Figs. 6 and 7).

To begin with, INFECTIOUS ECZEMATOID DERMATITIS appears as a solitary patch of in-



FIGURE 8 Infectious Eczematoid Dermatitis of fingers, showing typical undermined margins.



FIGURE 9 Infectious Eczematoid Dermatitis, nummular type, following burn with molten lead.

fected skin, on an area liable to trauma. This injury may be severe e.g. a gun-shot wound, or a scarcely perceptible scratch. Gradually the skin becomes sensitized to exotoxins liberated by the organisms responsible, and perhaps complicated by the absorption of break-down proteins or unsuitable medicaments. Storck8 has demonstrated that these patients give a positive patch-test to the filtrate of the infecting organism, with negative tests to filtrates of other bacteria. Further trauma, e.g. the sweaty and dusty work of a coal miner, leads to the appearance of fresh lesions, until large areas of the skin, especially the limbs, face and neck, are involved. If treated early and with mild but suitable antiseptics, perhaps combined with hydrocortisone, such cases are likely to recover completely, but neglect or overtreatment in the early phases may cause a chronic disabling eczema (Figs. 8 and 9).

Possibly Contact Dermatitis is to the dermatologist the most fascinating and tantalizing dermatosis, for here he can exhibit his prowess as a detective, though only too often he has to retire baffled without discovering the cause. Thirty years ago the causes of contact dermatitis were relatively few, but nowadays the development of new chemical substances has increased the number of sensitizing agents to an incredible degree. A vast number of these cases are iatrogenic, i.e. they are due to medi-

caments applied for the relief of some other disorder; of these, the worst are the drugs in the cocaine group, used for itchy conditions such as pruritus ani, but mercury and sulphonamide reactions are still seen, as well as those due to antibiotics especially streptomycin and penicillin. Of all potential sensitizers, two bear the palm—chrome and rubber, used for so many purposes in modern life; once these have been excluded, one should consider the possibility of a plant e.g. primula obconica or a coal-tar dye e.g. paraphenylenediamine being responsible.

In the development of a contact dermatitis, trauma and perspiration are often factors. Cement dermatitis may be caused by the minute amount of chrome present, but is precipitated by the destructive action of the cement on the epidermis, while suspender-clip dermatitis due to nickel (or sometimes the tiny quantity of chrome present) appears following friction of the clip and the solution of small quantities of the chemical in the sweat. Experiments by Haxthausen⁹ and others have revealed the important role of the lymphocyte in contact dermatitis. For example, in a chrome dermatitis, on the injured area chrome proteinate is formed and this foreign agent is absorbed by the lymphocytes which are to be found in profusion in sections of such a case. When the lymphocytes have reached the general circulation, the whole skin becomes chromesensitive, so that patch-tests on any portion are positive. It is a curious fact that children before puberty are far less liable to develop such reactions (Figs. 10 and 11).

There has been much argument among dermatologists as to whether or not NUMMULAR ECZEMA is a genuine clinical and pathological entity. The word "nummular" means coinshaped, and there is no doubt that discoid patches can appear as manifestations of other types of eczema such as infectious eczematoid dermatitis. But with certain criteria one can safely make a diagnosis of nummular eczema. This constitutional disease mainly affects the skin of the limbs symmetrically in people who have a fine dry skin-perhaps inherited as in asthma eczema; perhaps due to the drying effects of chemicals such as alkalis; perhaps the result of old age. Precipitating factors are cold weather, the friction of woolen clothing, and desiccating agents, which lead to the formation of circinate dry patches or papulovesicular plaques. Gross¹⁰ looks upon this disease as a peculiar skin reaction due to a metabolic skin disturbance, and incriminates poor nutrition especially deficiency of vitamin A. Certainly one not infrequently sees this disorder as a reaction to large doses of antibiotics such as penicillin and streptomycin, which may have interferred with enzyme systems of the skin. In my experience nummular eczema is associated with an anxiety state and tends to clear when this has been treated efficiently.

A variation on this same theme is the patchy eczema seen on the dorsa of the hands of young girls which may be provoked by the action of soaps and detergents, but which is invariably closely linked with deep mental stress. Another type is the discoid eczema seen in the elderly, involving not only the limbs but also the upper trunk. This is a most difficult kind of cure, and a follow-up of these reveals that a high proportion die of a reticulosis or internal malignant disease.

FIGURE 10 Contact Dermatitis of legs, caused by anaesthetic ointment.



FIGURE II Contact Dermatitis due to dye of shirt; the dome of the axilla is not involved.



Points in Differential Diagnosis

FAMILY HISTORY:

Asthma-Eczema — usually close relatives have asthma, hayfever or eczema, or at least a xeroderma. In *Pompholyx*, relatives may sometimes have the disease.

Neurodermatitis — sometimes a history of asthma-eczema.

Seborrhoeic Dermatitis — occasionally close relations have had the same disease.

Infectious Eczematoid Dermatitis — no such history.

Contact Dermatitis — very occasionally there may be an inherited tendency e.g. to the primula plant.

Nummular Eczema — in about fifteen percent relatives have asthma-eczema.

PERSONAL HISTORY:

Asthma-Eczema — often infantile eczema, asthma, hayfever, or dry skin; often clears on change of environment; attacks precipitated by emotional stress.

Neurodermatitis (Circumscribed)—localized chronic thickened patch or patches; emotional stress; may follow on other dermatosis; often in post-menopausal women.

Neurodermatitis (Exudative) — young people, usually female of hysterical type.

Seborrhoeic Dermatitis — the rash, often exudative, may appear first on the scalp or in a flexure.

Infectious Eczematoid Dermatitis — affects localized areas; apparently spontaneous remissions and relapses.

Nummular Eczema — discoid patches on limbs, often symmetrical; may be dry vesicular or exudative.

ITCHING:

Asthma-Eczema — intense night or day so that patient cannot resist rubbing and scratching.

Pompholyx — recurrent attacks, perhaps in spring and autumn.

Neurodermatitis — occurs as bouts of intense pruritus, often in the evening or in bed; not so marked when occupied, and relieved by scratching.

Seborrhoeic Dermatitis — sometimes little

itching, but may be intense.

Infectious Eczematoid Dermatitis — may be minimal, but may be severe, e.g. when spreading fast.

Contact Dermatitis — most often a hot burning sensation rather than true itching.

Nummular Eczema—pruritus often intense and persistent.

APPEARANCE AND DISTRIBUTION:

Asthma-Eczema — dry scaly or papular rash, often lichenified and excoriated; involves mainly the face and neck, bends of arms and legs and wrists, but whole body may be affected.

Pompholyx — hands and feet, vesico-bullous.

Neurodermatitis (Circumscribed) — lichenified plaque on area easily accessible to scratching e.g. nape of neck.

Neurodermatitis (Exudative) — brow, cheeks, chin, lateral aspects of arms.

Seborrhoeic Dermatitis — scalp or flexures e.g. retroauricular; erythematous and exudative.

Infectious Eczematoid Dermatitis — commences on an area exposed to trauma e.g. hand, shin; secondary rash may appear on face, neck and arms.

Contact Dermatitis — varies in degree from mild erythemato-squamous rash to severe vesico-bullous eruption with oedema; localized to area of contact with sensitizing agent; any part of the body may be affected.

Comments

Many years ago Norman Walker remarked: "Eczema is the term used to designate all inflammations of the skin, whether moist or dry, of which the observer does not know the cause or nature." With the passage of time and with advances in knowledge, various diseases have been rescued from what used to be the rubbish-dump called eczema, so that nowadays one is able to classify the type of eczematous reactions according to the etiological factors involved and thus prescribe appropriate and not empirical therapy.

In some of the eczemas such as seborrhoeic

dermatitis, infectious eczematoid and even nummular eczema the results of such treatment are usually effective, though the same cannot be said in the case of the Besnier's Prurigo type of asthma-eczema (atopic dermatitis). Nevertheless, it may be significant that during the twenty years, from 1934 to 1954, in the Skin Department of the Royal Infirmary, Edinburgh, the incidence of the eczema-dermatitis group dropped from 39% to 28.8% of all cases, and in the four years from 1954 to 1957, it has fallen from 28.8% to 20.9%, possibly because of the introduction of hydrocortisone and other locally applied steroids.

The longer one lives and the more cases of eczema one sees, the more one realizes that in every case, no matter of what type, nervous stress plays a decisive part. This influence is most obvious in the atopic person, but it can also be detected in contact dermatitis and infectious eczematoid dermatitis. The incidence of contact dermatitis is far higher in a factory where the employees are discontented; the in-

cidence of infectious eczematoid dermatitis greater in a coal mine where the morale of the workers is low.

In all types of eczema stress and heredity are the main causes, and, as some under such influences will develop lichen planus, psoriasis, or peptic ulcer, so others will develop an eczema, in form determined by time and place. When all is said and done, every disease is due to some abnormality provoked by some cause in individual cells; in eczema abnormal irritability or sensitivity in some cells has been produced by some toxin or toxins, borne through the blood stream, the lymph channels, the nerves, or by absorption as a foreign protein substance from the outside. The normal process of building the epidermis has been interfered with, and eczema results.

Considering the multiple insults to which our skins are subjected, day by day and year after year, from without and within, it is amazing that the incidence of eczematous dermatitis is as low as it is.

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Geriatric Restoration to Self-Care

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Our aged population needs additional medical assistance if they are to keep pace with the emphasis on modern life prolongation methods. Independency is a goal acceptable to all. In particular, our geriatric patient requires considerable help to overcome existing difficulties in the way of self-help, vocational rehabilitation, and social adjustment. The need for special devices is becoming evident. Examples are given of self-feeding, bathing, and dress modifications which will improve the morale of the severely disabled person.

In the United States, geriatric rehabilitation information is sorely needed, particularly in the area of self-care therapy. Elderly patients, who no longer need acute hospital treatment, have found it exceedingly difficult to locate the requisite services which will minimize their medical requirements so that they can live reasonably unassisted for the remainder of their days. The twentieth century has brought health-codes and life-prolongation schools for the aged, but few institutions for senescent living where self-care is stressed.

It is true that present day gerontology did not spring fully grown like Aphrodite, nor from Ignaz Leo Nascher who coined the term geriatrics in 1909. Perhaps, eventually we will have sufficient resources for all our senior citizens. Nascher's fundamental principle, as published in his book entitled *Geriatrics* in 1914, was most profound:

"Senility is a physiological entity like childhood and not a pathologic state of maturity. Diseases are pathologic conditions in a normally degenerating body, not diseases such as occur in maturity complicated by degenerations. The objective of treatment of disease in senility is to restore the diseased organ or tissue to a state normal in senility, not to a state normal in maturity."

Note that this thought embraces our modern views of rehabilitation. To rehabilitate, is to restore to capacity for living.

The Team

Before treatment is begun, each patient is evaluated as to prognosis and the course of treatment is charted. A committee or team of physicians—physiatrist, orthopedist, internist, urologist, neurologist, and psychiatrist—initiate the treatment. Another advisory group is composed of the chief physical and occupational therapists, the social worker, the head nurse and the recreational instructor. The purpose of the committee on evaluation is to evaluate, prescribe, and make recommendations for a total program to be followed by the patient.

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Public Acceptance

Relentlessly, the health of the country is altered by the growing number of patients with long term illnesses. The trend is due partly to antibiotic therapy and in part to the fact that the population is gradually getting older. Elder statesmen such as Mr. Herbert Hoover, Sir Winston Churchill, and Mr. Bernard Baruch demonstrate that the increase of man's life to three score and ten, as prophesied by the Bible, is a far cry when compared to two thousand years ago. The average limit of life then was twenty-five years. The medical, economic, and social implications of this phenomenon is even more profound than such things as atomic energy. The implications of our aging population, therefore, are a challenge not only to the medical profession but to the community as well. We must move to active offense from our previous position of passive defense in meeting old age and senescence. A day is coming when age will have to be related to health and ability, rather than to birthdays. Individuals who can survive should not be treated as statistical errors but rather as human beings well entitled to all the benefits of mankind.

Public Awareness

The rehabilitation of patients with chronic disabilities would seem to be an obvious and necessary procedure. For years, particularly in the last decade, rehabilitation measures have been instituted in chronic disabilities such as poliomyelitis and cerebral palsy with fairly good results. In more recent years, there has been a considerable advance in the understanding and treatment of many other disabling conditions. Until medicine finds its specific answers to the problems of the diseases of the heart and circulation, nervous disorders, such as multiple sclerosis, Parkinsonism, arthritis, and other crippling diseases, we must utilize the techniques of Physical Medicine and Rehabilitation to teach the disabled to live within the limits of their disabilities and to the full extent of their capacities. For this purpose, we must utilize psychology, social service, vocational counseling, and the other para-medical

specialties so that the patient may have a comprehensive treatment program. In the past, the physician has thought too much about the physiological and clinical aspects of the patient's disability. We are not concerned with diagnosis here, but with the ravages which have taken place as a result of disease. The vocational counselor, too frequently, thought only in terms of physical skills which could be utilized vocationally. Between these thoughts, however, there is a wide gap through which most physically handicapped persons must proceed when their medical care is completed and before they are ready to undergo vocational training wherever possible. In this area lies the physical re-training in skills necessary for the carrying on of activities inherent in daily living and common to work.

Achievement Goals

Basically, usefulness to one's self and to others provides a happy life for most individuals, old as well as young. Except in a few isolated instances, the physically handicapped person must be re-trained to walk and travel, to care for his daily needs, to use normal methods of transportation, to use ordinary toilet facilities, to apply and remove his own prosthetic devices, and to communicate either orally or in writing. These are such simple things that they are frequently overlooked, but the personal, vocational, and social success of the handicapped person is dependent on them. In geriatric rehabilitation, arbitrary levels of achievement are utilized. These may be:

- 1) APPEARANCE Pride in one's appearance, particularly in females, is an important motivating factor for rehabilitation. Lipstick, rouge, and powder can very often accomplish more good than therapeutic procedures. The impression made on others also can make the difference between being considered for employment or remaining unemployable. Dental hygiene, not infrequently, contributes to normal relationships amongst individuals.
- 2) Mobility—The ability to get into and out of bed and other purposeful movement is basic in self-care restoration. To ambulate in



Disability: Left Hemiplegia— Relearning use of razor.

the hospital or home, climbing stairs, and traveling on public conveyances can make the difference between remaining a bed-ridden institutional case or an active member of the community.

For those who, as a result of accident, disease, or paralysis, are unable to walk, wheel chair or crutch assistance may provide the necessary aids for acquiring a measure of activity.

3) USE OF HANDS—Self-feeding activities should be begun as soon as possible by those who, for some reason, were unable to start previously. This is an initial step on the road to self-sufficiency. Here many assistive aids may be employed; such as a knife-fork combination for the hemiplegic, built-up handles for those with arthritis or paralysis, etc.

When these are mastered, other self-care activities including all the individual performances involved in dressing, bathing, grooming, and toileting one's self have to be re-learned. Each procedure may be painstaking and often

requires a long period of training and practice. The teaching of these functions in rehabilitation centers evolve upon the occupational therapist, but because of personnel shortages in this category, the nurse is called upon to fulfill this patient need. This nursing procedure is now a vital task at many progressive centers and is the responsibility of the *Rehabilitation Nurse*. This special type of nurse can contribute materially to the process of learning and in the correct practice of these skills when taught by the therapists.

Methods of Self-Care

One finds in the elderly, a greater loss in the ability to care for one's daily needs than other physical activities. In institutions, the inability to perform the necessary movements for self-care creates a burden to the nursing staff, lowers a patient's morale, and often prevents him from returning home at an early date. This restriction in self-care activities is most important too when costs are considered. In outlining a

SELECTED REFERENCES FOR SELF-HELP DEVICES

Fascole Sales Catalogue
Fascole Corporation
229 Fourth Avenue
New York 3, New York

Preston Equipment for Physical Medicine and Rehabilitation 175 Fifth Avenue New York 10, New York

Rehabilitation Products 2020 Ridge Avenue Evanston, Illinois

"Self-Help Devices for Rehabilitation"
(Various Publications)
Institute of Physical Medicine
and Rehabilitation
New York University—
Bellevue Medical Center
400 East 34th Street
New York 16, New York

program for self-care activities, the following principles should be followed:

 As soon as possible, after a patient has been admitted to the hospital, a self-care program should be inaugurated.

2) As soon as feasible, emphasis should be placed on functions in which the patient is most deficient. This can be only determined following a performance test of the inherent activities required for daily life. Those activities which the patient is incapable of performing should be stressed commencing with the simplest techniques first.

3) Another consideration is that one must bear in mind, at all times, the physical requirements of the home to which the patient plans to return; upstairs bedrooms, etc.

4) Since elderly patients are usually restricted in their contacts with the family when in an institution and unfamiliar to the surroundings, all personnel treating the patient should be aware of the extent of the self-care limitations and cooperate in preventing complete dependency.

5) The self-care program should be guided and limited only by a patient's physical capacity and disease processes which are present and not by age alone.

Since our whole philosophy is embodied in the ultimate achievement of physical independence, the physician is in a strategic position to assess the patient in his progress and to provide him with an opportunity to contribute in his own rehabilitation.

Mechanical Aids

Frequently, simple mechanical devices permit otherwise helpless patients to become independent again. These devices have been termed "self-help devices". Many have been suggested by patients themselves or evolved by the physicians, physical and occupational therapists who are most concerned with the problems of the disabled.

Dressing procedures have presented many difficulties. It has been suggested that in the case of women, dresses that open down the front are easier to manage. If there is a choice of buttons and snaps, these are simpler to work than hooks and eyes.

Two assistive aids that may prove helpful are as follows: A long handle with a special shaped wire at one end permits a rolled stocking to be held open and which can be easily slipped over the foot. Another means of donning hose is to fasten long pieces of tape by means of girdle garters and then by using the tape as reins the hose may be pulled up.

Some of the most difficult tasks are concerned with footwear. In the male, it has been suggested that elastic shoelaces be used when the fingers are stiff. A shoe horn may then be used to allow the foot to be easily slipped into the shoe. Zippers also are a great help instead of shoelaces.

Since tying a tie is a difficult procedure for some of the elderly men, a good way to avoid the problem is to use clip-on ties. These come in bow-tie or four-in-hand styles.

Shaving also presents another problem. The simplest suggestion is to use an electric razor. In bathing, a shower is to be preferred rather

than the bathtub. In this way, the patient can avoid the problem of having to step into a tub and running the risk of an accident. For security in the shower, a stool or a chair of aluminum can be placed directly in the shower so that it may be taken while sitting on the chair. In an institution, stainless steel carriers may also be used for heavy bed patients who require to be bathed. There is nothing like the freshening effects of a full-body shower to create psychological stimulation for recovery.

When the hands are paralyzed, a curved brush purchased at the Five and Ten Cent store can slip over the paralyzed hand and be used to brush the fingers on the sound side. In addition, a bath-mit may be made of toweling with soap inside, thus making it easier to wash with one hand.

In the case of a patient confined to a wheelchair, the chair itself can be first covered with a sheet of plastic as protection and wheeled into the shower when one is able to raise himself from a wheelchair onto a stool as suggested. Other wheelchair patients can benefit from manufactured self-toileting devices such as a commode built into the seat.

To facilitate transfer from a wheelchair to a toilet seat, grab-bars also may be installed on the adjacent walls. In this manner, the patient performs his own toileting unassisted as well as to rely on his own physical efforts and residual muscle functions.

Community Facilities Needed

Rehabilitation is only as sound as the basic medical service with which it is a part. The diagnosis and prognosis must be accurate for it is upon them that the feasibility of re-training is determined. In a comprehensive rehabilitation program, vocational specialists should also be available, in order that the patient may be started on a pre-vocational, exploratory, and work testing program as soon as it is medically feasible. Many communities are grossly lacking in such a facility. Great interest has been shown in the need for a Multiple Disability Rehabilitation Center where chronic disease responsibility can be instituted. The assistance

would end only when the patient had been retrained to live and work with what he has left. When such a program is properly organized, instituted and sustained, only then will there be progress in the chronic disease problem.

The keystone of a man's worth is made up of his family, home, and job. All our efforts, therefore, are to return him to his family environment. To encourage the chronically sick to remain at home where there is gentle loving care, domiciliary or mobile Physical Medicine and Rehabilitation teams should be developed fully to provide treatment, at the residence or in the local community. The physical demands involved in journeying to a hospital can defeat treatment, for these patients readily become exhausted. By bringing physical and corrective therapy into the dwellings and neighborhoods, the patients can receive maximal benefit. Likewise, diversional therapy programs can be planned and carried out. Recreational activities, under a trained director with the aid of community volunteers, can include weekly upto-date "movies," or entertainment by visiting amateurs, and games. Socialization, once begun, can serve to develop new friendships and interest between the sexes and between different age groups.

Early diagnosis of illness will undoubtedly prevent hospital admission and conserve hospital beds for the acute and serious cases. Planned convalescence is particularly important in chronic disease. The chronically ill must be taught to live and remain within the limits of activity prescribed by their illness, and at the same time carry on economic independence.

The strength of this program, in restoring the chronically ill to as complete a physical, mental, social, vocational and economic life as possible, is dependent upon us in the field. Nature's compensatory laws can sharpen our acuity in one eye. This is not instantaneous. They must be developed in some cases through long periods of training. The magnitude of the task and the necessity for an enlightened attitude towards the needs of the chronically ill can be successfully met by recognizing the importance of the individual rather than of his

disability. All illness is not amenable to therapy. However, we can guide the chronic patient towards better health and peace of mind, so as to make life's remaining years a more worthwhile and enjoyable experience.

The Purpose for Added Years

People have been heard to say, "for what do we need the added years,-the shelf to wait for death, or an opportunity to live and work in dignity for as long as we are able?" Right now, the number of persons forty-five yearsold and over in the working population totals more than twenty-four million, and they comprise more than a third of the total according to the census figures from the United States Bureau of the Census 1956. Back in 1900, the forty-five and older workers came to just seven million, they then represented only a quarter of the labor force. Of the older workers, approximately three and one-half million today are sixty-five and over as against fewer than a million and one quarter at the turn of the century. Those who through medical skill, opportunity, work and courage, survived their illness or overcame their handicap can take their places back in work and have a depth of spirit that you and I can hardly measure.

We in America boast to the peoples of the world of our medical care. We give to the March of Dimes for poliomyelitis; we contribute to Easter Seals for crippled children; we give toward the amelioration of heart disease, rheumatism, tuberculosis, and cancer. We consent to the employment of taxes for city, state, and national health agencies. Yet, the integration of all these services are not centralized in "total" care and rehabilitation of the patient. Tucked into dark institutions one can find thousands who undoubtedly would benefit from this final phase of medicine.

This is not a problem of habilitation, but of rehabilitation; not a problem of moral disregard, but of moral regard; not a problem of available resources, but of available united services. Self-care is basically a right for all mankind.

Pasteur Medical Building 1111 North Lee



WHAT'S YOUR VERDICT?

In this issue and every issue, Medical Times presents authentic medico-legal cases and their interesting court decisions. Test your medical magistracy.

SEE PAGE 53a

VOICE PROBLEMS

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hough hoarseness and swallowing difficulties immediately direct the physician's attention to the larynx and lower throat, it is now known that any of the following symptoms should do the same: narrowed range, voice fatigue, breathy, husky, hoarseness, aphonia, throat clearing, tickle, dryness, scratchy, throat ache, sore throat without fever, lump in throat, cough, choking spells, swallowing difficulty, swelling of muscles and glands, arytenoid tenderness, tracheal pressure. pain - anterior cervical, pain - base of tongue, pain - posterior cervical, pain - referred to ear. Responsibility for the detection of the specific cause of these symptoms is that of the general practitioner.

No longer is it possible to satisfy a patient fully with a diagnosis of chronic laryngitis. Recent, effective public information regarding the early diagnosis of cancer has made the public much more aware of the possible serious connotation of the symptoms of hoarseness and swallowing difficulty. Yet, far too many patients with advanced carcinoma of the larynx are still being encountered. An earlier diagnosis may be made when symptoms regularly found associated with voice problems are more carefully studied.

Positive clues to the etiology of the patient's complaints are frequently found on the initial general physical examination. Beginning cardiac decompensation causing unproductive cough and frequent throat clearing quickly associate themselves in the physicians' mind

with dyspnea after going up one flight of stairs, pulmonary rales, and early ankle edema. Yet, the same cough and throat clearing may indicate evidence of kidney dysfunction, secondary tubercular involvement, allergy, lues, or endocrine dysfunction. Chest fluoroscopy, barium swallow, electrocardiograph tracings, serological tests, and allergic workups may be performed or requested by the general physician. Yet, none of these fully substitutes for careful examination of the larynx itself. Skilled use of the laryngeal mirror by the physician will detect laryngeal changes in most instances. These changes may be primary or may be secondary to generalized disease. At this point, a detailed laryngological examination will be helpful.

Positive identification of the etiological factor or factors, relief of symptoms, removal of the lesion, and prevention of recurrence are the four specific goals to be attained.

Ruling the presence of carcinoma in or out, all too frequently is still attained without the aid of biopsy, or cell studies.⁴ Because of the frequent presence of a very active gag reflex

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and hurried by a busy practice, a fleeting glimpse of the vocal cords and the absence of any gross tumor mass may be used as the basis for the relief of cancer fear. Mild superior surface edema, rather than the normal flat appearance of the upper surface of the vocal cords is easily overlooked, and small pedunculated polyps will appear on the upper surface of the cords only when increased subglottic compression is used by the patient during examination. Even the "ever benign" appearance of a singer's node may be simulated by carcinoma in situ.1 The laryngeal ventricle, a difficult area to inspect, is again the subject of intense study since carcinoma arising in this area may remain hidden and produce symptoms hardly suggestive of laryngeal dysfunction, yet now recognized as directly related to this vital structure. Here the laryngologist can be of special help.

With carcinoma effectively ruled out, the etiology of the patient's symptoms may still remain obscure. Though frequently prescribed, voice rest too often gives only temporary relief from the many lesions now associated with vocal abuse. Screamers, speakers, or singers nodes have long been reckoned as the wages of voice strain, yet many swollen vocal cords without other evidences of inflammation, polyps, papillomas in the adult, contact ulcers, hyperkeratoses, and leukoplakia, as well as localized edemas and inflammatory areas, can now be traced to specific intrinsic laryngeal muscle dysfunction for their etiology.

A careful voice history including such additional items as amount of voice use in the presence of background noise in the office and in the plant, frequent long telephone conversations, use of dictating machines, frequent shouting and further description of occasions demanding this type of vocal abuse, are routinely included. Further, the presence, type, and amount of hearing loss in the patient and knowledge of the presence of hard of hearing family members in the daily voice use routine are helpful clues.

Speech therapists basically trained in the handling of articulation problems are now in

the process of broadening their field and have interested themselves in problems of voice. Lacking the necessary musical and scientific background they still have been able to obtain results in those cases where reducing or eliminating certain abuse habits is an effective approach. Certain relaxation techniques learned from those more interested in voice than in speech have been combined with breathing exercises taken from the singing teacher's approach and have in some instances secondarily relaxed hyperfunctioning intrinsic muscles with relief of symptoms. However, when these muscles were primarily hypofunctioning anyway the result was other than anticipated and change of therapist was frequently advised or sought by the patient. The general physician and the laryngologist now feel that their patient is in more competent hands if not only the precise causes of vocal abuse, but the specific muscle disturbances can be determined and reported in detail. This is the task of the highly competent voice diagnostician. His report will be of little value unless it includes the results of careful testing reported in percentage terms of hypo- or hyperfunction of each of the five intrinsic laryngeal muscle groups, plus identification of abuse habits. It should specify type and character of voice, immediate muscle response, prognosis if abuse persists or increases and remains untreated, and the anticipated length of treatment. Finally, with symptoms identified with specific laryngeal muscle dysfunctions, the general physician is now in a position to advise his patient.

Even though the voice may sound normal to the patient and his family, if his history includes any of the above complaints, voice testing usually reveals a pronounced dysfunction of the laryngeal muscles.

The voice testing procedure by the Voice Diagnostician consists of four important steps or individual tests. The thyroarytenoid test determines the functioning state of the thyroarytenoid muscles which shorten and thicken the vocal cords. Their antagonists, the cricothyroids, are tested separately and their ability to stretch and lengthen the cords is determined.

The interplay of both muscle pairs is examined during the third or divergence test. A divergence of audible gap in sound production will occur while pitch is changed. The exact musical pitch at which the divergence occurs indicates the voice type. There are twenty-seven main types of voices, primarily classified as low, medium, and high, for both male and female voices, and secondarily in musical terms, such as lyric, soubrette, mezzo, dramatic, buffo, etc. The same divergence test indicates the interplay of both muscle pairs and the proportion of mixture of thyroarytenoid and cricothyroid functions in a voice and determines the voice character. Voices belonging to the robust character groups show predominating thyroarytenoid contraction and can endure more abuse than delicate character voices of identical type. There will be no smooth transition between functions of these antagonistic muscles if excessive hyper- or hypofunction of either muscle exists. The ratios of both functions change according to pitch. vowel, and subglottic compression. Classification of voice as to both type and character is of vital importance for three reasons: 1. The identical type of abuse may produce different symptoms or lesions in voices to different types and characters. 2. Therapy program and dosage depend on voice classification. 3. Prognosis as to what lesion may form if the patient is permitted to continue vocal abuse without therapy is based on muscle activity ratios which differ with different voices.2 The fourth test is known as the cricoarytenoid test and this examines the functioning condition of the lateral and posterior cricoarytenoid muscle, which rotate and set the arytenoid cartilages. The lateral cricoarytenoid muscles approximate the arytenoids anteriorly at the vocal processes, while the posterior cricoarytenoids function as posterior adductors of the arytenoid cartilages, abductors of the vocal processes of the same cartilages, bracers against the stretching action of the cricothyroids as well as exhibiting a lateral sliding motion most easily visible on deep inspiration.

Frequently, simple advice from the voice

diagnostician and therapist regarding discontinuance of specific abuse types which may be represented by just "singing around the house" or by omitting long telephone conversations improves the patient's conditions. Such constructive advice regarding healthier phonation cannot be expected to produce results especially in cases of long standing or when professional speakers or singers are concerned. The intelligence and cooperation of the patient outside of the office will greatly affect the rapidity of relief and the time required for the disappearance of the lesion. Voice therapy has been divided into four treatment phases.²

Phase I deals with elimination of abuse habits as briefly mentioned above. Many more are recognized and listed. The second phase is concerned with regaining the dynamic equilibrium of the intrinsic laryngeal muscles by retraining of specific muscles. Reactivation or tensing of hypofunctioning muscles consequently eliminates hyperfunction of the antagonists. The order in which muscles are treated depends on testing results as well as type and character of voice. Utilizing the speaking voice, work phrases are chosen which employ specific vowels at a specific pitch. Each vowel depending on specific voice type and character as well as specific pitch and degree of subglottic compression produces a definite predictable change in the individual muscle balances.

For example: the oo vowel which strengthens the cricothyroids is used when hyperfunction of the antagonistic thyroarytenoid muscles exists. Word phrases with oo vowels are designed in ascending pitch patterns aimed at levels one-half tone above or below the divergence occurrence pitch when treating voices belonging to the delicate character groups. However, descending phrase designs with oo vowels will start two or three tones below divergence pitch when treating robust character voices. Otherwise, increased hyperfunction of the thyroarytenoids occurs which may lead to expected edema or polyp formation. Other vowels, as a or e and assimilations of these vowels, are used if hypofunction of thyroarytenoids or *hyper*function of cricothyroids exists. With each change of vowel concomitant change of subglottic compression is essential. This change consists of elimination of such incorrect breathing habits as taking too much air too often, abdominal overcompression, lengthening of the word phrase to use up excessive air before the therapeutic vowel tone is produced, etc. Thryoarytenoid-cricothyroid imbalance may be primary or may be secondary to imbalance of the other intrinsic muscles. If so, they must be treated at intervals to counterbalance the necessary changes produced in the lateral and posterior cricoarytenoids and the interarytenoids.

Therapeutic phrases are designed which depend on the following factors: A. (Choice of vowel), B. (Pitch), C. (Subglottic Com-

pression), D. (Phrase Design), E. (Dosage). The muscles which control the functions of the vocal cords are easily irritated. They, also, respond rapidly to treatment and overdosage can cause permanent damage.

Until the patient has become sufficiently aware of pitch, etc., home exercises are impractical and, as illustrated above, may produce further difficulty rather than the anticipated improvement. However, in Phase III, they are helpful and aid materially in the immediate relief of temporary recurrence of symptoms. By this time, disappearance of the visible lesion has occurred. Phase IV is usually combined with Phase III and consists of broadening the patient's tolerance to temporary periods of abuse so that all muscles can endure more.

Summary

The role of the general physician in the detection and management of voice problems has been presented. His initial contribution is identification of generalized disease as the initial cause. Many new symptoms seldom previously identified with vocal abuse are listed. The role of the laryngologist in performing additional laryngoscopy, biopsy, and cell studies is outlined. What aid to enlist in specific identification of type of abuse and re-

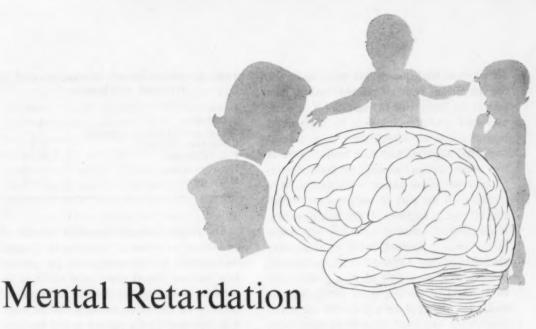
sultant specific intrinsic laryngeal muscle dysfunction is discussed. The type of report to expect from a competent voice diagnostician is presented. Based on this combined information, decision as to proper procedure for relief of symptoms, removal of laryngeal lesion, and prevention of recurrence can be made by him whose own voice, as family advisor, will be heard most clearly and will most often be heeded.

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onservatively speaking, three percent of our child population of school age is comprised of retarded children. They may range in degree from the "slow learner" who has difficulty in keeping up with his classes, to the small minority (about five percent) who are, from the onset, destined for custodial care. In the last decade, an aroused interest in these children and their parents has made at least one point crystal clear-facilities for diagnosis, evaluation and treatment, are totally inadequate. This is all the more deplorable when one considers that seventy-five percent of all retarded children have the potential of becoming useful citizens. Treatment of the retarded child in the broadest sense includes of course education and training, as well as the correction and management of organic defects when they exist. In the retarded child, the child with behavior problems, or even the psychotic, education and training dominate the therapeutic program.

The retarded child is almost invariably first brought to the attention of a physician, either a general practitioner or a member of one of the specialties. The physician, therefore, has the opportunity to properly direct the course of future events and to initiate a program of management. It is quite apparent that this opportunity, both from a lay and professional point of view, is often lost. Koch and his associates found in a study of parental attitudes that forty-eight percent of families were critical of their medical contacts.1 This of course is a subjective reaction and, in a problem so fraught with emotional overtones, it is perhaps not unexpected. Unfortunately, the physician's first reaction on reading this figure is also apt to be subjective. We, for example, instinctively called to mind the many parents of retarded children who were unreasonable and even aggressive in their demands. One in particular was highly indignant because, while many physicians had told her the child was slow, none had told her he was retarded. Whether these critical attitudes on the part of the parents are right or wrong, is actually beside the point. The fact remains that they exist, and not with little justification. An analysis of reports received at the Kennedy Center from physicians indicates that thirty-two percent had managed

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the problem inadequately. In many instances, the physician had temporized rather than inform the parents of his suspicions; in some they had ignored complaints by the parents regarding delayed development; on rare occasions, the diagnosis had been missed. One of the major causes leading to poor doctorpatient, or doctor-parent relationships, is a tendency on the part of the physician to feel that all that is required of him is a diagnosis. A diagnosis is almost of secondary importance to the parents-indeed, many of them have already made the diagnosis. Their prime need is for advice, counseling on management, and an estimate of the degree of retardation. A medical appraisal alone will not tell the physician, except in a small minority of cases, what to anticipate in the future, what results may be expected by the correction of existing physical defects, or what the role of the total family situation may play in a resolution of the problem. The "yes or no" diagnosis and the equivocal diagnosis as well, are useless for all practical purposes. They can neither be used as a basis for making recommendations nor for implementing recommendations. When a physician sees a retarded child, a figurative bell should ring, warning him that this child will require a comprehensive evaluation of all the physical, psychological and emotional factors involved in the problem. It should be remembered that once the diagnosis is competently established, the child and the parents will have to cope with the problem for the duration of the child's life. This leads to the crux of our discussion—the team approach. This is the approach of most centers for retarded children, and is that followed at the Kennedy Child Study Center. There is no reason, however, why it cannot be followed by the private physician if either he or the family wishes it.

This team approach entails the services of a pediatrician (or a family physician), a psychologist, a psychiatrist, a neurologist, as well as other medical specialists. In addition, however, we consider a trained social worker of inestimable value for reasons which we will presently discuss.

TABLE I INCIDENCE OF ORGANIC DEFECTS IN RETARDED CHILDREN

Mongolism	23.4%
Orthopedic	14.0%
Special Senses (including speech)	59.3%
Convulsive Disorders	10.9%
Post-Encephalitis	3.1%
Hypothyroidism	3.1%
Microcephalic	1.5%

The pediatrician sets in motion the train of evaluation, so to speak, based on his physical findings and his interviews with the parents. It is the rare patient that should not have the services of the special disciplines mentioned above, even the severe retardate. In the latter, it is important for the parents to feel once and for all, that everything possible has been done to arrive at a valid conclusion. We are all familiar with the unhappy and unfortunate "shopping parents"-seeking any solution but the one they must accept. The Kennedy Center, dealing as it does with the pre-school group (4 to 7 years) has a large percentage of children with organic defects. Our policy is, therefore, to give priority to defects that may interfere or mitigate against our program of pre-school training. Handicapped as these children are with mental retardation, it is essential that their physical assets be optimal. The child that cannot see well must have glasses. The child with poor muscle coordination requires physical rehabilitation. At times the correction of these defects may be performed while the child is receiving training or education. At other times, the latter must wait while physical defects are corrected. Table I indicates some of the organic defects noted in our center and illustrates the frequency with which double handicaps occur in this pre-school group. This table represents the percent incidence of each defect, since on occasion more than one defect will appear in the same child. Defects of the special senses, which require the diagnostic services of the otolaryngologist and ophthamologist, lead the list.

The most common of these is that of speech, and the need for speech therapy in this age

group is very great. Second in importance are the visual handicaps. In several instances of the latter, we have been forced to delay evaluation until some correction could be achieved. The data does indicate the variety of handicaps which are met and which must be properly assessed before considering the total picture. Our incidence of mongolism (23.4%) is somewhat higher than that noted at the Julia D. Levenson Foundation in Chicago (15.8%). A word may be said in respect to this problem. There are two schools of thought concerning the management of these children, both of which have their merits. On the one hand, some believe that they should be separated from the family group as soon as the diagnosis is made; others feel that they should remain in the family group until a definite appraisal is possible-generally after the third year. As in so many problems of this type, no set rule can be promulgated. It depends in a large measure on parental attitudes. There is no question, however, that there are degrees of mongolism. Some of these children are extremely adaptable and can manage quite well in small groups. One of our most engaging children is a mongoloid who has gained a great deal from her experiences in a group setting. While the potential of these children is never very great, it is undoubtedly true that some of them are able to live successfully in the community, and would probably profit in future years through sheltered work-shops.

It may be stated categorically, that all children suspected of retardation should have psychological testing in order to ascertain the degree of retardation. Most of these examinations are delayed until after the third year, but if there is any urgency in the particular problem, they may be attempted before this time. If psychometric tests are completely impossible, developmental tests designed by Gesell are useful.² The psychological testing, however, should go much further than a mere intelligence quotient, and should include as well the social age and social quotient. An attempt to ascertain special skills should also be made. Whether or not the retardate will become a

useful member of society, frequently lies in his ability at socialization rather than his intelligence. We have observed a number of children whose basic retardation was successfully masked by a superior ability to conform to the environment. We recall one little girl who was unable to pass the eighth grade after three attempts, and on her I.Q. alone could not be expected to do so, but she was indistinguishable socially from her associates. This girl was a leader in the extracurricular activities of her school, and it was thought by her parents that because of this she didn't want to graduate! Fortunately, her parents were understanding people. With the cooperation of her school she was allowed a token graduation, with the understanding that she would not attempt further academic work but would be directed towards some type of vocational training. This was done, of course, to spare the child and the parents needless mental and emotional suffering.

The psychiatrist has a multitude of functions in the problem of retardation-not the least of which is diagnosis. Some of our most difficult diagnostic problems are those children whose apparent retardation is but a mirror reflecting a deep underlying emotional disorder. Conversely, so to speak, some of our most severe behavior problems are activated by the frustrations of the retardate. In addition to the difficulty of differentiating between the retardate and a psychiatric problem, competent psychiatric evaluation of the parental attitude towards the problem is invaluable. It is no exaggeration to say that practically every family in which there is a retardation problem needs psychiatric appraisal to a lesser or greater degree. It is hard to see how this could be otherwise, for this is a problem with great emotional impact. We have been somewhat surprised at the incidence of children referred as retardates who were suffering instead from severe psychiatric problems. In our relatively small group of referrals (139), after one year of operation, we have encountered ten patients who have childhood schizophrenia. Six of these have been referred and accepted in institutions

for treatment, and four are being cared for on an ambulatory basis. At times of course, a psychiatric problem and retardation may run simultaneously and the decision as to where to put the most therapeutic weight is in the province of the psychiatrist.

The participation of the neurologist in the appraisal of the retardate varies considerably. Children having brain damage syndromes following encephalitis, and those with convulsive disorders, all require neurological examination—many of them electroencephalograms. There is a further large group who, while they do not reveal clinical neurological findings, are suspected of organic damage on the basis of psychometric tests. These patients should probably be referred to the neurologist for an opinion, although we feel that this particular problem needs re-study.

Many physicians consider the social worker as an individual solely interested in the problems of the indigent, hence a welfare worker. This is only partly true, for the economic factors achieve importance only as they affect the total situation. The social worker, trained to observe the interplay of personalities in a family group and capable of evaluating the reactions of individuals under stress, is of great importance to the team concept. The physician must base his ultimate decision, not only the medical and psychological findings, but also on social and economic factors as well. The impact of a retarded child on the family group is extremely variable. In some instances, there is acceptance and unanimity on the part of both parents; in others we find the parents as wide apart as two poles. At times we find one or both parents, regardless of how obvious the diagnosis may be, in absolute disagreement with the findings of the specialists. Witness the father who insisted, despite the evidence to the contrary, that all the 'boy needed was more discipline. Recommendation for treatment for the retarded child is strongly mediated by these parental attitudes and, not infrequently, they may also be altered by the reactions of the patient's siblings. Many of these facets of the problem are clarified by the social worker. We have, more than once, been surprised that the findings of the social worker were diametrically opposite to our own impressions. In one instance, we were firmly convinced that both parents were in accord with our suggested plan of care. The social worker, after a few interviews and several home visits, produced a report that indicated a wide and serious difference between the parents-not only as to diagnosis but also as to treatment. When directly approached, they acknowledge this and our entire program had to be discarded and revised. Parenthetically, we would like to point out another source of error in these appraisals which arise between the physician and the psychologist. In a number of instances we have concluded our pediatric appraisals with the comment that cooperation on the part of the patient was excellent, only to find the psychologist reporting almost complete non-cooperation. We have finally decided that this is due to the fact that in our work very little is asked of the patient by the examining physician, whereas a great deal is asked by the psychologist. This is an important point to resolve, especially when one is recommending the child for special training or schooling.

When the comprehensive evaluation of the child is completed, a center such as the Kennedy Center will generally conduct a disposition conference on the case and make joint recommendations on management. We believe this is a better plan than allowing the decision to fall on one individual. Nonetheless—in private work, the physician because of his close association to the family, must digest the material he has obtained and advise the parents on their problem. This may, of course, be a long and sometimes tedious problem. Many parents will remain undecided for long period of time, even years—but patience and tact, or circumstances, will eventually win out.

It should be apparent that, in the problem of the retarded child, there is no easy or simple solution. Facilities for their training and education are far from adequate and a large part of the responsibility must fall on the shoulders of the parents.³ We have attempted to empha-

size the need for a thorough evaluation of each patient first and foremost in the best interests of the child, but also in the interest of the parents and the community in general. We cannot over-emphasize that many of these children, if properly evaluated, need not be

institutionalized—nor should they be relegated to home confinement. The main objective of those interested in these children is to reverse this type of management. This can only be accomplished by proper evaluation, training and education.

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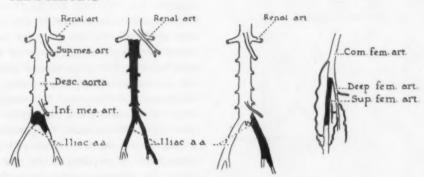
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Advances in Diuretic Therapy

A brief discussion of the various diuretic groups is presented with emphasis given to the benzothiadiazine drugs which have proven to be helpful in the treatment of edematous states.

MORTON FUCHS, M.D. B. E. NEWMAN, M.D. JOHN H. MOYER, M.D. Philadelphia, Pennsylvania The aberrations of normal physiology which result in edema are many. The mechanisms by which edema is produced in these conditions are certainly different to a large extent although there is no doubt that basic changes and homeostatic physiologic reactions are quite similar. Thus the common denominator of excess sodium reabsorption by the renal tubules is the one factor underlying all of the clinical states of edema. Effective blocking of this sodium reabsorption can well be considered the corner stone of therapy in the treatment of edema.

The description of an ideal diuretic agent would entail a rather long list of desirable actions and perhaps a longer list of undesirable actions. However, besides requiring an absence of toxic effects and side reactions, such a drug should produce a large sodium excretion, be without tolerance or refractory periods and should be available in an oral form.

In recent years many groups of diuretics have been developed which differ chemically and pharmacologically. Although none of these have reached the ultimate goal one can see progress towards this as the various groups are studied.

Thus the organomercurials were the mainstay of diuretic therapy for many years. The many advantages of this group of drugs are well known. The unquestioned potency and the continuous effectiveness together with the rapid onset of action and the relatively slight effect on electrolyte excretion other than sodium and chloride make the parenteral mercurials more desirable.1 However, the fact that high doses are required in the oral form to obtain the potency comparable to the parenteral form unfortunately results in a high incidence of gastrointestinal side effects. Also a hypochloremic alkalosis may develop with prolonged administration of the mercurials resulting in the depression of the diuretic activity of the drug. This of course may be counteracted by the use of ammonium chloride.

The xanthine group of diuretics such as aminophylline and the cytosine agents such as

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aminometradine and aminoisometradine although quite effective do not have the potency desired for state of marked salt and water retention.

The carbonic anhydrase inhibitors such as acetazoleamide and ethoxzolamide have been helpful in many edema problems. Again, potency of these drugs leave something to be desired. Refractoriness occurring within two to three days of daily administration is obviously an undesirable factor. The fact that considerable bicarbonate excretion occurs producing a hyperchloremic acidosis would make the drug particularly dangerous in the treatment of patients with overt or latent renal insufficiency.

All the above mentioned diuretics are still used effectively in the treatment of many edematous conditions, but research for more potent oral diuretics has been active.

Newer Diuretics

A new group of diuretic agents has been introduced which holds the promise of a considerable improvement over those agents. The new group is, of course, the benzothiadiazine diuretics of which chlorothiazide was the first to be developed and used clinically. As with all new drugs, the advantages of chlorothiazide have been widely reported and the effectiveness of the drug has been extolled. However, as is frequently the case, perhaps the disadvantages have not yet been fully appreciated.

As a group, the benzothiadiazine diuretics have first the decided advantage of being administered orally. For consideration of potency the benzothiadiazines may be conveniently divided into 2 groups; that is the hydrogenated and unhydrogenated compounds. This structural change occurs between the 3 and 4 carbon atoms of the heterocyclic ring (Figure 1). Chlorothiazide and flumethiazide as examples of the unsaturated group have been shown to produce a marked excretion of sodium and chloride at a maximum effective dose of 2000 mg.² At this dose there is observed a moderate increase of potassium excretion. A comparison of the electrolyte excretion pattern

3 Benzylthiomethylhydrochlorothiazide (P1574)

FIGURE 1 Structural formula of thiazide derivatives.

URINE EXCRETION OF ELECTROLYTES

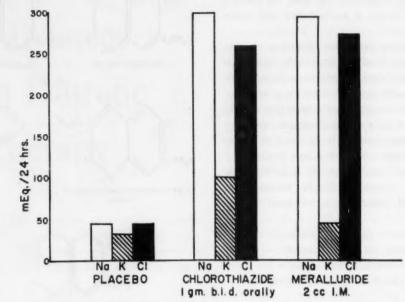


FIGURE 2 Comparison of electrolyte excretion pattern of chlorothiazide and meralluride. (Courtesy Fuchs, et al. Hypertension. Saunders, '59.)

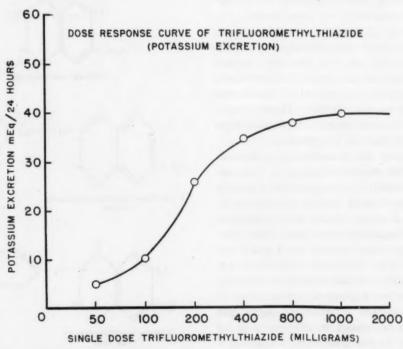


FIGURE 3 Potassium excretion with increasing doses of flumethiazide. (Courtesy Fuchs, et al. Monographs on Therapy, April 1959).

DOSE RESPONSE CURVE OF CHLOROTHIAZIDE AND HYDROCHLOROTHIAZIDE

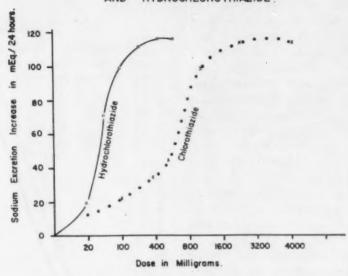


FIGURE 4 Dose response curve revealing maximum effective dose of chlorothiazide and hydrochlorothiazide.

ELECTROLYTE EXCRETION PATTERN OF HYDROCHLOROTHIAZIDE

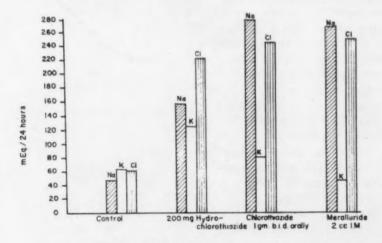


FIGURE 5 Electrolyte excretion pattern showing the increased chloride excretion relative to sodium which is produced by hydrochlorothiazide; also higher potassium excretion than meralluride. (Courtesy Fuchs, et al. Review of Pharmacology of Hydrochlorothiazide. Arch. Int. Med. To be published.)

of chlorothiazide and meralluride (Mercuhydrin®) is shown in Figure 2. It is seen here that the sodium and chloride excretion is quite similar with both drugs although the potassium excretion is greater with chlorothiazide than Mercuhydrin. This of course is an undesirable effect of chlorothiazide administration. Flumethiazide, the second of the unsaturated compounds has, as stated, a similar potency and electrolyte excretion as chlorothiazide with one exception.³ Potassium excretion with this compound appears to be prominent at low doses, but does not increase proportionately above doses of 400 mg. (Figure 3).

This is an indication that less potassium may be excreted over a long period of administration as compared to chlorothiazide at high dose levels.

Of the saturated compounds, hydrochlorothiazide has received the most extensive evaluation. The hydrogenation of chlorothiazide which results in hydrochlorothiazide primarily changes the potency. Thus, a dose range of 25 to 200 mg. of hydrochlorothiazide produces an equivalent sodium excretion at 250 to 2000 mg. of chlorothiazide (Figure 4). The electrolyte excretion pattern differs primarily in the somewhat greater excretion of chloride resulting from hydrochlorothiazide than with chlorothiazide (Figure 5). Potassium excretion with hydrochlorothiazide is quite similar to that of chlorothiazide being approximately one-half of the sodium excretion.

Hydroflumethiazide being a hydrogenated compound has also an increased potency. The dose range and electrolyte excretion pattern is quite similar to hydrochlorothiazide although there is an indication that, as with flumethiazide, there may be less potassium excretion at the higher dose levels⁴ (Figure 6).

Figure 7 is a graphic comparison of the four benzothiadiazine diuretics described. Here a comparison is made of the average acute fortyeight hour weight loss occurring with the maximum effective dose of each drug in twenty patients ill with congestive heart failure. No statistically significant difference is observed. Figure 8 is a similar comparison of the maximum

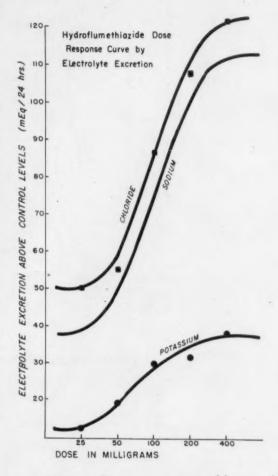


FIGURE 6 Dose response curve of hydroflumethiazide showing less potassium excretion at higher doses. (Courtesy Mallin et al. To be published.)

AVERAGE WEIGHT LOSS IN 20 HEART FAILURE PATIENTS IN A 48 HR. PERIOD WHILE ON THE DRUGS

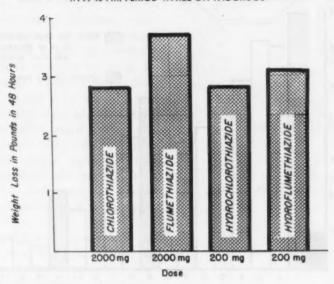


FIGURE 7 Weight losses produced by the four thiazides in congestive heart failure. No statistical difference is found.

SODIUM EXCRETION RESULTING FROM MAXIMUM EFFECTIVE DOSE OF 4 THIAZIDES

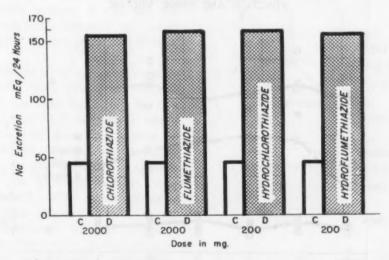


FIGURE 8 Sodium excretion produced by four thiazides. No difference in sodium excretion is found.

HYDROCHLOROTHIAZIDE 50 mg TID RESPONSE OF PATIENT DURING LOSS OF EDEMA

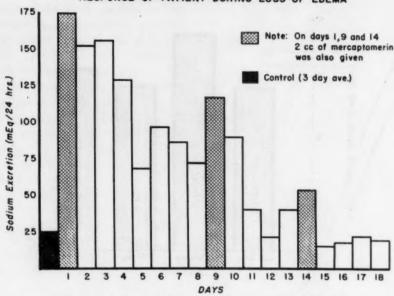


FIGURE 9 Response of edematous patient to hydrochlorothiazide is shown with additive effect of a mercurial. (Courtesy Fuchs et al. A.M.A. Arch. of Int. Med. To be published.)

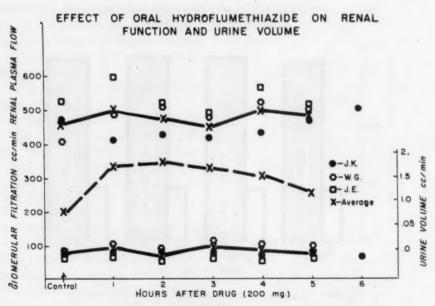


FIGURE 10 No significant change in the glomerular filtration rate and the renal plasma flow is observed in patients given 200 mg. of hydroflumethiazide orally. (Courtesy Mallin et al. To be published.)

effective dose of the drugs by sodium excretion response. Here again no significant difference is present.

In the chronic treatment of edematous states, the benzothiadiazine group has been found to be very effective. An example, (Figure 9) typical of the continuous action of the group is seen in the treatment of a congestive heart failure patient. Sodium and water excretion are increased above control levels as edema fluid is lost. Excretions fall to control level on the 10th day of this study at which time dry weight and cardiac compensation is attained. In this study the potentiated sodium excretion with combined thiazides and mercurial (Thiomerin®) therapy is shown on days one, nine and fourteen.

The toxicity of chronic administration of any one of these drugs although rare may be manifest in gastrointestinal reactions or skin rashes and thrombocytopenia.⁵ Hypopotassemia is a definite possibility, and patients should be constantly observed for the development of this condition. Also long continued administration of these agents may produce an elevation in the blood urea nitrogen. It is felt that although this could be due to nephrotoxicity, this is quite unlikely in view of the reports available. However, it is possible that this could result from a decreased body sodium and a resulting reduced glomerular filtration rate.

Of great interest is the mechanism of action of the benzothiadiazine drugs. Unfortunately at the present time it can only be said that their effect is most likely due to inhibition of enzyme systems at the renal tubular level. This is felt to be true because acute studies have shown no change in the renal blood flow or glomerular filtration rates compatible with the excretion pattern which results from the administration of the drugs (Figure 10).

Recent additions to the benzothiadiazine group of diuretics include benzyl-thiomethyl-chlorothiazide, benzylthiomethyl-hydrochlorothiazide and benzhydro-flumethiazide. Although reports of these drugs are very limited at present, continued improvement appears evi-

3 Hydroxy 4 Chloro 3 Sulfumylphenyl phthalamidine (G33182)

FIGURE II Structural formula of a new potent oral diuretic.

Spiralactone (SC9420)

FIGURE 12 Structural formula of a promising antialdosterone agent.

dent. Another investigational compound, a phthalamidine derivative⁶ (Figure 11) appears to have an active sodium excretion capacity as well as an effective capacity to produce significant weight loss in edematous patients. Toxicity appears to be minimal as does the production of electrolyte imbalance. This drug may also possess an added advantage of prolonged naturetic activity, lasting for more than 24 hours (which is not seen with the thiazide drugs).

As a final comment on advances in diuretic therapy attention should be given to another recently developed group of compounds. These are the antialdosterone agents. The spiralactones (Figure 12) are considered to act competitively with aldosterone at the renal tubular level. There are encouraging reports of the use of this drug. However, because of its more specific mechanism of action, evaluation must await further investigation. Should this group of compounds be proven generally effective, it would seem that the electrolyte excretion pat-

tern with decreased potassium excretion would be more favorable than that of the benzothiadiazines or when combined with benzothiadiazine therapy. Another group of antialdosterone agents, the amphenones, offer many advantages in theory at least, to diuretics now available. However, as with the spiralactones further investigation will be necessary before clinical consideration can be given to this group.

In conclusion it may be said that over the recent years there have been developed new diuretics which hold great promise for improved treatment of those patients suffering from the edema syndrome. The use of potent oral diuretics will certainly allow the patient a moral normal life with freedom from the distasteful "shot." Also a more palatable diet may be possible with the liberalization of salt intake which seems permissible with the use of the new oral diuretics. The satisfaction of the physician in being able to offer these recent advances to his patients will certainly be immeasurable.

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230 North Broad Street



WHAT'S THE DOCTOR'S NAME

Identify this famous physician from clues in the brief biography. PAGE 69a

Carcinoma of the Cervix

Carcinoma of the cervix is a timely subject for discussion among all physicians. It is a condition which affects over 25,000 women each year and causes the death of approximately 15,000. It is the leading cause of death among all genital cancer.

- Estimated Cancer Deaths in the U.S. 1960
- Total Deaths: 265,000
- Female: 122,000
- Male: 143.000
- Deaths Other than Genital: 98,950
- Deaths from Genital Cancer: 23,050
- Deaths Due to Carcinoma of the Cervix: 15,000
- Deaths from Other Sites (Genital): 8,050

he most important reason for the timeliness of this subject is that invasive carcinoma of the cervix is a preventable disease, with its preventability being the responsibility of all physicians. It is one of the few malignancies that can be diagnosed in its pre-invasive state. When a death certificate is signed indicating carcinoma of the cervix as the cause of death, certain questions must be asked if we are to eliminate deaths from this disease. Did the patient err by neglecting herself and not reporting early symptoms of cancer? Did the physician err by not educating his patient concerning the importance of annual physical examinations or did he err by missing an opportunity to diagnose the disease at an earlier stage? Was this death from invasive carcinoma of the cervix the result of both physician and patient's errors? When something is done about these introspective questions, it will be ultimately possible to eliminate invasive carcinoma of the cervix.

We do not know the cause of cancer. It is a complex growth phenomenon related to many facets of living such as trauma, hormonal stimulation, physical irritants, tissue resistance, and possibly emotional factors. To live is to have cancer, since the disease is often related to the process of aging. However, the body through tissue resistance or physicians through early diagnosis and adequate treatment can destroy the early nidus of cancer before it destroys the individual.

More specific facts concerning the development and diagnosis of carcinoma of the cervix is known than for most malignancies.

- The disease tends to occur among married women who have borne children.
 The mean and mode age of occurrence is the fifth decade of life.
- It occurs most frequently among the lower socio-economic classes, both colored and white. It is a more fatal disease in the underpriviledged groups.
- The disease seems to occur more frequently among women who have had difficult life situations, unhappy marital and sexual relationships, although one

From the Department of Obstetrics and Gynecology, University of North Carolina, School of Medicine, Chapel Hill. Presented to the Knoxville Academy of Medicine under the auspices of the American Cancer Society, November 10, 1959.

TABLE I CAUSES OF PATIENT AND PHYSICIAN DELAY

PRIMARY FACTORS FOR ABVANCED CANCER	nysical exam- intil advanced (54%)	ns reported but physician (30%)	present early	r patient (16%) ysician)			(%001)
	Failure to have annual physical examination (no symptoms until advanced cancer present)	Physician errors (symptoms reported immediately by patient but physician delay)	Patient delay (symptoms present early	in course of disease but patient failed to report to a physician)			rei
	19 (44.2%)	10 (23.3%)	8 (18.6%)	3 (7.0%)	2 (4.7%)	1 (2.2%)	43 (100%)
	Symptoms diagnosed as benign lesions without pelvic examination	Pelvic examination performed but no smear or biopsy	Hysterectomy performed in presence of cancer (no smear or biopsy)	Failure to perform pelvic examination because of bleeding	Failure to perform pelvic examination during pregnancy	Failure to do D&C and conization after suspicious smear	
	31 (45.6%)	16 (23.5%)	8 (11.8%)	7(10.3%)	4 (5.9%)	2 (2.9%)	68 (100%)
	Believed bleeding due to "change in life"	Denial or fear	Ignorance of cancer	Symptoms of cancer not associated with pain	Would not submit to pelvic examination	Inadequate finances	TOTALS
							MEDIC

This group of 130 women contained patients with no delay, patient delay, physician delay and patient and physician delay. All factors including time relationships were considered in determining the primary factors for advanced cancer

cannot prove these as causal factors.

4. The disease is easily diagnosed.

The Diagnosis of Carcinoma of the Cervix

Carcinoma of the cervix can be easily diagnosed since the cervix is accessible to inspection, palpation, and biopsy. Even more important, the development of cytological studies has given us an invaluable tool to survey vast numbers of women so that those with suspicious lesions can be biopsied or conized.

It is important to emphasize, however, that cytological study does not make the diagnosis of carcinoma. It indicates those patients who have suspicious lesions and who should have a cervical biopsy or conization for a definitive diagnosis. The Papanicolaou test should at present be performed on all women each year who have borne children, or who are above 21 years of age. It is possible through further study of the natural history of development of invasive carcinoma that Papanicolaou smears will be necessary only every two or three years, for those patients, who have had at least two normal smears. This finding and further developments in screening may make it practical to survey the entire female population periodically.

The Papanicolaou smear should be a basic part of every annual physical examination and every hospital admission. It should become just as routine as a urine and a hemogram. Every female patient admitted to the outpatient department or to the hospital at the North Carolina Memorial Hospital has had as a part of their routine laboratory work a Papanicolaou smear. This practice has made possible the diagnosis of twenty-three unsuspected instances of carcinoma in situ during 1957-1958 on the surgical, medical, and psychiatric services. Actually, one case of carcinoma in situ has been found for every two hundred and eighteen smears taken on services other than obstetrics and gynecology. Seventy percent of the unsuspected carcinomas in situ have been diagnosed on services other than gynecology.

It is felt that the Papanicolaou smear should

be made using two slides. The first slide should be made from cells obtained from the endocervix by rotating a small cotton swab in the endocervical canal. The second slide should be made from cells obtained from the portio and mucocutaneous junction of the cervix using an Ayer's spatula. Equally satisfactory is the technique of making one slide from the material aspirated from the endocervix and the second slide from material in the cul-de-sac pool. In postmenopausal women, the cervix should be sounded before the Papanicolaou smear is taken so that cervical stenosis will not preclude the discovery of malignant cells in the endocervix or endometrium.

There are simple steps that may be taken if anaplastic cells are present on the Papanicolaou smear.

If a cervical lesion is present, it should be biopsied as well as the entire mucocutaneous junction. Cervical biopsy is a simple procedure which may be performed in any physician's office. If invasive carcinoma is not found in the material obtained by biopsy, a cold knife conization, multiple biopsy of the upper one-third of the vagina, and a fractional curettage should be performed. If suspicious cells are found from a perfectly normal and completely epithelialized cervix, one should proceed immediately to the cold knife conization and vaginal biopsy since there is no specific point to biopsy.

Delay in Diagnosis

Unfortunately these simple steps for diagnosis are not always taken; there is an inordinate amount of patient and physician delay in the diagnosis and treatment of this condition. Table I reviews the causes of patient and physician delay in 130 patients with carcinoma of the cervix.

Patient Delay

Table I indicates that the main reason patients did not report symptoms of cancer was the belief that their bleeding was due to the "change of life." Indeed, almost fifty percent of the patient neglect was due to this mis-

TABLE II THE EFFECT OF COMMITTEES FOR THE STUDY OF PELVIC CANCER

	PHILADELPHIA		BALTIMORE			
	1946	1951	1953	1956		
STAGE 0			18.1%	24.8%		
STAGE I	9%	23%	21.6	35.2		
STAGE II	27	40	20.5	16.8		
STAGE III	40	20	25.7	11.6		
STAGE IV	17	7	5.9	5.8		
PER CENT NO DELAY			49	73		
Baltimore Data Courtesy of	Dr. C. Be	rnard Brack.				

conception. It is a common and serious misconception among patients that any abnormal bleeding in the fifth and sixth decades of life is normal and is due to menopause. This idea is not only widely accepted by patients, but also frequently by physicians. Another cause of patient delay was denial and fear. One may graphically illustrate patient denial: symptoms—anxiety—denial.² Seven patients did not report the early signs and symptoms of cancer because it was not associated with pain; they felt that one could not have cancer without pain. Pain is not a sign of cancer; it is a sign of death.

Eight patients were entirely ignorant of the signs and symptoms of cancer; some of these felt that cancer was incurable, others associated cancer with shame and would therefore not submit to a pelvic examination. There was only two instances in which patient delay was due to financial reasons. The other patients had spent sizeable sums of money on various types of medication and office visits.

Physician Delay

The two most common errors among physicians which caused delay in the diagnosis and treatment of carcinoma of the cervix was 1. diagnosing carcinoma as a benign lesion

without pelvic examination, 2. performing the pelvic examination but not taking a smear or biopsy. In eight cases a hysterectomy was performed in the presence of cancer without initially obtaining a smear or cervical biopsy. This usually is a fatal error since removal of the uterus and cervix precludes adequate treatment by x-ray and radium since the uterus is the receptacle for radium. In three patients, there was failure to perform a pelvic examination because of bleeding, in two a failure to perform a pelvic examination during pregnancy, and in one patient a D&C and conization of the cervix was not performed after a suspicious smear was reported. Another type of error committed by physicians which initiated delay in the diagnosis and treatment of carcinoma of the cervix was the institution of the treatment in the presence of symptoms of cancer. It is imperative that the treatment of pelvic complaints be withheld until the diagnosis of cancer has been eliminated. To institute therapy in the presence of symptoms of cancer is to give the patient a false sense of security. Pills, douches, cauterization of the cervix, vitamin and hormone injections, and treatment of urinary tract infections were some of the treatments instituted before the diagnosis of cancer had been made.

When the one hundred and thirty case histories of invasive carcinoma of the cervix were critically studied at the North Carolina Memorial Hospital, it was found that in fiftyfour percent of the patients, there were no symptoms to cause the patient to seek medical advice until after invasive carinoma had occurred. We must change our emphasis, therefore, from the danger signals of cancer to the importance of periodic examinations. In thirty percent of the patients, there was physician neglect. The physician had had the opportunity of diagnosing the lesion at an early stage but failed to do so. In sixteen percent of the cases the real burden of invasive cancer was upon the patient.

Methods of Reducing the Incidence of Pelvic Cancer

Patient delay may be reduced by educating patients to the necessity and importance of having an annual physical examination and indicating to them how emotional reactions can prevent patients from seeking proper medical care.

Physicians must not diagnose the symptoms of cancer as benign lesions until a proper pelvic examination and evaluation has been conducted. Symptomatic treatment for pelvic disorders must not be instituted in the symptoms of cancer. The majority of physicians' errors will be avoided if the basic advice of Dr. John Y. Howson, the Chairman of the Philadelphia Committee for the Study of Pelvic Cancer, is heeded.³

Probably the most important way to reduce the incidence of invasive cervical cancer and allow the diagnosis of disease to be made in its pre-invasive stage is to organize committees for the study of pelvic cancer in each country and large city. Maternal mortality committes have been eminently successful in reducing the number of maternal deaths and in providing postgraduate education in the management of obstetrical difficulties. Table II illustrates the favorable effect these committees have had on the incidence of invasive cancer in Philadelphia and Baltimore.⁴ It is evident

PHYSICIAN'S RESPONSIBILITY

- 1. Examine all patients with pelvic complaints. Periodic examination of all women regardless of complaints should be urged.
- The treatment of pelvic complaints must be withheld until an adequate diagnosis is made.
- 3. The pelvic examination must be made if at all possible at the time of the first visit.
- The examination must be complete.
 The use of bimanual palpation, a speculum in good light, and sounding of the uterus.
- Patients actively bleeding should be examined in the presence of this complaint.
 No contraindication exists for this practice.
- If a patient refuses examination she should not be treated. The patient may seek help elsewhere if so managed and ultimately submit to examination.
- 7. A lesion appearing suspicious of cancer should be studied relentlessly until a definite conclusion is reached.
- 8. In the presence of known cancer proper therapy must be promptly instituted.
- 9. Arrangements for clinic or specialist's care for cancer patients must be made by the referring physician. The responsibility must not be placed on the patient.

that in both cities there has been an increase in the number of early lesions, Stage O and Stage I, and a reduction in the percentage of advanced cancers in Stage III and Stage IV.

Treatment

The status of treatment of carcinoma of the cervix can be best understood by briefly reviewing the historical development which has led to the present concepts of the management of this disease.⁵

1821—Vaginal hysterectomy for carcinoma of the cervix.

1895—X-ray discovered and the first radical hysterectomy by Clark of The Johns Hopkins Hospital.

1898—Radium isolated and Wertheim performed his first radical hysterectomy.

1901-Schauta performed his first radical

vaginal hysterectomy and x-ray was first administered by vaginal cone.

1903—The application of radium to the cervix.

1907—The first use of filtered radium allowing pure gamma radiation.

1910—Bonney began the revival of radical hysterectomy.

1913—Development of filtered x-ray.

1922—The development of external irradiation to complement intravaginal radium therapy.

1945—Meigs repopularizes the radical hysterectomy.

It is evident that the principles of treating carcinoma of the cervix have not materially changed since 1895 and 1922. The improvement in surgery has been in the use of blood banks, anesthesia, and improved pre- and post-operative care. The anatomical performance of the radical abdominal and vaginal hysterectomy have undergone little change. There have been improvements in the type of radium applicators and x-ray machines. There has also been some improvement in the use of both radium and x-ray by improved knowledge of radiation physics.

Treatment of Carcinoma in Situ

The treatment of non-invasive carcinoma of the cervix following its diagnosis by multiple sections of the conized specimen should be treated according to the age, the reproductive history of the patient, the extent of the lesion. and the characteristics of the abnormal cells. Young women who have not completed their family may be allowed to continue a pregnancy or have subsequent pregnancies if the lesion is small, the cells well differentiated, and the lesion apparently removed by a wide margin with conization. It is important, however, that these women be followed periodically by cytological examinations. Women who have completed their reproductive careers can be best treated by abdominal or vaginal hysterectomy. Adequate vaginal cuff must be removed; this should consist of at least the upper third of the vagina. Patients who have been operated on for carcinoma in situ should be followed at periodic intervals to determine if the lesion has recurred in the vaginal cuff.

The Treatment of Invasive Carcinoma of the Cervix

Intravaginal and intrauterine radium and external x-ray irradiation are the primary tools for treating invasive cervical carcinoma. Radical hysterectomy and node dissection must still be considered as experimental methods of treatment. Radical hysterectomy is associated with a ten to seventeen percent incidence of urinary tract injuries.6 It is necessary, therefore, to study further the surgical approach to treating invasive carcinoma to determine if the benefits of surgery justify a high incidence of urinary tract injuries. There are undoubtedly a number of cases which would be benefited by radical surgery. A basic problem that requires further research is to determine which of these cases can best be treated by surgery instead of by irradiation.

There are two situations, however, that demand surgery. These are the treatment of adenocarcinoma of the cervix and recurrent carcinoma of the cervix.

When surgery is used as the primary method of treatment of invasive carcinoma of the cervix, it must be truly a radical hysterectomy, with dissection of the ureters, complete removal of the parametrium and one-half of the vagina, and be combined with a meticulously performed pelvic lymphadenectomy. When radical surgery is used for recurrent carcinoma, the patient must be carefully studied by bone survey, cystoscopy, bladder biopsy, proctoscopy, sigmoidoscopy, and barium enema. The operation should not be done for palliative reasons; it should be performed in an attempt to cure the individual.

It is often necessary to divert the fecal or urinary stream. Since the survival rate of ureteral implantation into the sigmoid is generally less than one year, the ureters should not be implanted into the sigmoid unless the sigmoid is made into a blind pouch and a permanent colostomy is performed. The ureters may be successfully implanted into an isolated segment of ileum allowing drainage of urine from an ileostomy.

The Principles of Radiation Therapy in the Treatment of Invasive Carcinoma of the Cervix

Carcinoma of the cervix provides an ideal situation for the successful employment of radium. The cervix and uterus are fibromuscular structures which will tolerate intense irradiation. The vagina is a distendable organ which will allow proper packaging to reduce the amount of irradiation to the bladder and rectum. Filtered radium emits a pure gamma ray of short-wave length and tremendous intensity, but this ray loses its effectiveness according to the square of the distance law. Therefore properly implanted radium will give adequate radiation to radiation sensitive carcinoma in the cervix and parametrium and the vagina. but radium alone will be ineffectual in delivering a carcinicidal dose of radiation to the pelvic sidewall and to the pelvic lymphatics. It becomes necessary, therefore, to complement radium with external irradiation. Filtered x-ray of high kilowatt voltage will deliver almost a homogeneous beam of photons of energy of high intensity. Thus care must be exercised in the method by which x-ray is used. For although x-ray and radium produce slightly dissimilar biologic reactions, the net effect on the tissue is the same. Consequently adequately irradiated tissue by radium must not have superimposed x-rays if injury to the vagina, bladder, rectum, and the pelvis is to be avoided.

The technique employed at the University of North Carolina involves the use of a fully loaded Ernest applicator holding 90 mgms. of radium. Radium is applied in two applications two weeks apart followed in two weeks by external irradiation. The Ernest is loaded so that there is 20 mgms. of radium in the upper portion of the tandum, 10 mgms. of radium in the midportion of the tandum, and no radium at the cervix. Since the cervix receives maximum irradiation, radium in the lower tandum would only lead to cervical de-

struction. The lateral arms of the Ernest applicator contain 10 mgms. in each of the three containers. Following the insertion of the Ernest applicator, care is taken to provide maximum packing anterior and posterior to the Ernest applicator in order that the bladder and rectum will receive as little irradiation as possible. The vaseline packing may cause considerable discomfort to the patient, however, adequate packing allows the inverse square law to be used favorably in reducing rectal and bladder irradiation and irradiation cystitis and proctitis.

Following the insertion of the Ernest applicator, the patient is x-rayed and the isodose curves are plotted to determine the precise amount of irradiation being delivered to the cervix, Point A, Point B, the bladder and rectum. It is hoped to deliver by two applications of radium approximately 16,000 r at the cervix, 6,000 r at Point A (2 cm. from the external os and 2 cm. above the external os), and 2500 r at Point B (pelvic sidewall).

External irradiation is given approximately two weeks following the second application of radium. 2,200 to 2,500 roentgens in air are delivered to two anterior and posterior ports, but the uterus, cervix, bladder, and rectum are shielded with a lead strip. The central shielding of the cervix, bladder, uterus, and rectum during x-ray therapy and the employment of adequate vaseline packing during radium therapy reduces the amount of radiation to the bladder and rectum. It is hoped that no more than 3,000 to 4,000 roentgens are delivered to the bladder and rectum. The use of combined radium and external irradiation generally delivers 15,000 to 20,000 r to the cervix, 8,000 to 10,000 r at Point A, and 5,000 to 6,000 r at Point B.

If the vagina is of such size that the Ernest applicator cannot be properly used London applicators or a T-Tube are employed. In all three techniques, accurate measurement of the irradiation delivered at the critical points in the pelvis are determined by the use of isodose curves by the inverse square law.

It is generally preferable to treat those pa-

tients who are so obese that an adequate tissue dose cannot be delivered by x-ray to the pelvic sidewall with a cobalt machine or extraperitoneal lymphadenectomy. If supervoltage or cobalt a machine is used, it is imperative that the patient not be rotated since rotation will allow cross-fire of the bladder, rectum, vagina, and cervix and may cause extensive damage.

Post-Irradiation Therapy

One must not be complacent with having carefully applied radium and properly administered external x-ray therapy. The ultimate success of treatment in patients with invasive cancer will be manifested by proper post-irradiation care. The cervix should be dilated at weekly intervals between radium therapy to prevent the development of pyometria and for the first three weeks following the completion of irradiation. The patient must be instructed to take vaginal exercises using either a candle or a large test tube if vaginal synechia and the reduction of the size of the vagina is to be avoided. Coitus must be encouraged as soon as possible even though there will be initial dyspareunia. Patients must be checked at least every three months for evidence of recurrence. If there is any question of recurrence, the patient should be readmitted for cervical and parametrial biopsy or for exploratory laparotomy. Intravenous pyelograms should be performed at three, six, twelve, and eighteen months to determine if there is any ureteral obstruction.

Physicians must likewise assume a real sense of responsibility in caring for patients who have incurable cancer of the cervix. The services of various members of the family and visiting nurses should be obtained in order that the patient can remain at home as long as possible and be made as comfortable as circumstances permit. It is important that physicians contact the American Cancer Society so that the Service Committee of the local Cancer Society can supply the patient with sick room supplies such as beds, bed pans, dressings, home care services, and visitation by the clergy and church friends. It is also necessary for the physician to make an estimate of the finances of the family so that if a financial crisis occurs the patient can be referred to the Welfare Department. The Welfare Department should work closely with the local Service Committee of the American Cancer Society so that the resources of the community can be used to help the family. Drugs can be a major source of expense to a family with incurable carcinoma. The physician should attempt to obtain sample drugs from pharmacists and other physicians for his patients. The Service Committee and the local Cancer Society should make arrangements with various drug stores in order that drugs can be bought for indigent patients at cost plus ten percent.

When terminal pain occurs, it is important to evaluate the patient and make some decision as to proper therapy. Alcohol injection in the subarachnoid space and cordotomy can prove to be valuable adjuncts in the terminal care of patients. It is important that either or both of these techniques be used before the patient is addicted to narcotics. After narcotic addiction, the success of a high cervical cordotomy is limited.

Summary

One may summarize this material by emphasizing certain important points.

- 1. Invasive carcinoma of the cervix is a preventable disease.
- 2. There is an inordinate amount of patient and physician delay in the diagnosis and treatment of pelvic cancer. This delay can be corrected by improved patient education concern-
- ing the importance of the annual physical examination and by the establishment of committees for the study of pelvic cancer in each county and city.
- 3. The emphasis of cancer prevention must be changed from the early reporting of symptoms to the necessity of an annual physical examination and Papanicolaou smear. Fifty-

four percent of the patients with invasive carcinoma of the cervix had no symptoms of the disease until extensive invasion had occurred. Physicians were responsible for invasive carcinoma being present in thirty percent of the patients; patients were responsible for their disease being found in late stages in sixteen percent of the cases.

4. Properly administered radium and x-ray are the primary tools in the treatment of carcinoma of the cervix. Radical hysterectomy is still in its experimental stage but thoroughly

indicated in adenocarcinoma of the cervix and in recurrent carcinoma.

5. The proper management of a patient with carcinoma of the cervix will involve the utilization of an understanding physician who possesses basic and fundamental knowledge of radiation therapy and the appreciation of post-treatment complications; and the ability to mobilize the resources of his colleagues, the American Cancer Society, and the community in helping him successfully manage his patient.

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Department of Obstetrics and Gynecology



"OFF THE RECORD . . . '

Share a light moment or two with readers who have contributed stories of humorous or unusual happenings in their practice. PAGES 25a AND 29a.

NEUROLOGY AND

Occasionally, it is valuable for all physicians to review basic truths in Neurology and Neurosurgery (as in practically all medical disciplines) because they never seem to grow old in application or importance and, therefore, the following short review has been prepared, together with some recent advances in these specialties. Some of the points made, perhaps, seem self-evident, but the writer is certain that one can never emphasize them too much to medical students and to interns and residents because the carrying out of the simple rules mentioned in this article is today often quite lax in our experience.

Neurosurgeons still firmly believe that the use of morphine or other opiates immediately after head trauma or in brain tumor suspects before operation is dangerous. It depresses the respiration and the state of consciousness and renders interpretation of developing clinical signs difficult; it also fixes the pupils and renders them useless for localizing purposes. We much prefer the use of barbiturates, aspirin, phenobarbital and similar milder drugs to relieve headache or other discomfort rather than resorting to any of the opiates, including codeine and demerol, which latter drugs are not permitted in most neurosurgical services before the diagnosis has been firmly established, usually by operation. Likewise, the use of mydriatics, even short acting ones, is ill-advised in most neurologic cases before operation.

It is always of great value and importance to inspect the optic discs before carrying out a spinal puncture in any individual, especially in one who may have an expanding intracranial lesion. One is surprised sometimes in talking with an alert and perfectly oriented office patient about rather vague, indefinite symptoms until one looks at the optic discs and finds a high degree of choked discs. It is, therefore, wise always to be forewarned about this before resorting to spinal puncture. We have always believed in neurosurgery that although one would perhaps like to know what the protein and cell count of the spinal fluid are in patients suspected of harboring intracranial tumors, it may be the best advice to refrain from the spinal puncture entirely, but, instead, to do a ventriculogram through burr openings in the posterior parietal region. Sometimes "masterly inactivity" is wise with respect to lumbar puncture in such patients, as it makes it even more possible for herniation of the cerebellar tonsils through the foramen magnum to occur with a (perhaps) fatal compression of the medulla, especially if spinal fluid is removed in considerable quantity and the Queckenstedt maneuver performed. Strangely enough, this serious effect does not always immediately follow spinal puncture in instances of high spinal fluid and intracranial pressure, but may come on twelve to twenty-four, or even forty-eight hours later. Having knowledge of this tendency, all neurosurgical residents and house officers are careful not to do spinal punctures in anyone who has choked discs, or to remove any fluid if the spinal fluid pressure is high (above one

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hundred seventy to one hundred seventy-five millimeters of water pressure) when not due to gross subarachnoid hemorrhage, or obvious meningitis. We would urge, as we have for many years, that this policy be universally adopted by all physicians in the interest of optimum care of these patients.

Neurosurgeons also believe that the Queckenstedt maneuver (bilateral jugular compression) is of no value when investigating an intracranial lesion. Its chief value is in the study of spinal lesions of surgical significance. It is almost commonplace today to find that residents in medicine and other specialties believe that when a spinal puncture is done, whether for an intracranial or an intraspinal lesion, it is always well and advisable to do the Queckenstedt test also. Neurosurgeons read this note on the patient's record often with some amusement when the patient obviously has an intracranial lesion, and not an intraspinal one. The point is that compressing the jugular veins in an individual with a brain tumor is rarely if ever of diagnostic value and really displays the ignorance of the one carrying out the spinal puncture and the Queckenstedt test. There is almost never any spinal subarachnoid block in such patients. Even more important is the fact that it is distinctly dangerous, if there is already a high degree of increased intracranial pressure, for a cerebellar tonsil herniation, referred to above, is made even more likely by this maneuver (Queckenstedt test) when the spinal fluid pressure is

already high from an intracranial mass lesion. Removing spinal fluid in such a situation only "compounds the felony." This seems a difficult point to get across to many interns and residents, but actually if one recalls that the Queckenstedt test is of value only in trying to demonstrate a subarachnoid block along the spinal canal, rather than intracranially, it becomes simple and understandable. Of course, if the Oueckenstedt test shows evidence of a subarachnoid block in investigating a spinal case, usually we resort to a Pantopaque oil® study of the subarachnoid space to localize, with greater accuracy, the level of the spinal lesion. The important practical point to emphasize in this discussion, however, is that neurosurgeons strongly believe today, almost without exception, that a Queckenstedt test (and even an ordinary spinal puncture) in investigating an intracranial case really tells little or nothing at all, and may be distinctly dangerous, precipitating a serious clinical state following which even heroic emergency surgery is often of little or no avail. This fact has long been a basic tenet in neurosurgical clinics for several decades.

With respect to spinal cord injuries, it is still believed in our clinic that operation (lami-

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nectomy), in the presence of an immediate and complete loss of all sensory and motor neurological functions below the level of the solid cord lesion, will usually not be helpful in improving the neurological deficit. This particularly applies to closed spinal injuries not due to missiles. Those due to missiles (bullet and knife wounds) should, of course, be explored to be certain that a spinal fluid leak will not develop, with associated meningitis, in a few days. During World War II, the impression seemed to develop that it was sometimes well to do laminectomies in closed injuries with opening of the dura and decompression of the solid cord, even in instances of immediate and complete paraplegia and sensory loss, in the hope that perhaps there was some slight function of the cord immediately after the injury, which was not observed by those at the scene of the accident. It might also be of some comfort to the patient and his family years later, (the reasoning went), to realize that "everything possible was done at the time of the injury." This latter reasoning is rather tenuous in our opinion. It does not exclude the essential value of the simple rule that with immediate and complete loss of all neurological function below the point of cord injury, laminectomy usually is of no avail. This rule is as valuable and applicable to this situation today as it was twenty-five years ago when it was emphasized more in the neurosurgical clinics and in the literature than it is today. and certainly should not be lost sight of. In the infrequent instance in which there is some cord function preserved, however slight, below the site of solid cord injury and which has a block (complete or incomplete) by the Queckenstedt test, we still believe emphatically that decompressive laminectomy, promptly carried out, is valuable and strongly indicated, and may even restore the patient to ambulation. These latter cases, however, are still rather few and far between in our experience with the many cases of spinal cord injury that pass through our clinic in a year's time; nevertheless, they must be promptly detected and operated on immediately.

We have also observed that occasionally spinal puncture is carried out in investigating a neurological case, where one would particularly like the Queckenstedt test to be done; that is, in a spinal lesion, and it is omitted; whereas a day or two later one may observe a case in the wards in which it was done in an intracranial mass lesion where it was not indicated and should not have been done!

In carrying out the spinal puncture procedure itself, it still is common and we believe erroneous practice on hospital wards to double the patient up "like a ball" with the thought that this separates the spinal interspaces more widely and enables the puncture to be carried out more easily. It is believed that this is helpful when the knees are flexed against the abdomen, but that the head should not be sharply flexed on the chest, as to do so probably occludes the jugular veins partially and amounts to a partial Queckenstedt test, giving the surgeon a false impression of high spinal fluid pressure. It is quite easily demonstrated that this is the case in a patient who has a spinal (lumbar) puncture needle in place, who is relaxed and cooperative, but whose chin is flexed sharply on his chest and his knees flexed on the abdomen. One may find a spinal fluid pressure in such a situation of two hundred or more millimeters of water, and one has only to retract the head back from the chest into the "military position" to see the spinal fluid pressure drop as much as thirty or forty millimeters of water in the manometer in a very few minutes. Therefore, to obtain a true basic spinal fluid pressure reading, the head should not be flexed on the chest at all, but the knees only sharply flexed upward on the abdomen, which suffices for carrying out lumbar puncture. We regard normal spinal fluid pressure as any reading under one hundred and sixtyfive millimeters of water with the patient in the horizontal position, under local anesthesia, relaxed and cooperative.

It has been known for a long time by neurosurgeons that a subdural hematoma, particularly of the chronic variety, can be present with an entirely normal spinal fluid pressure; that is, the presence of a normal spinal fluid pressure does not necessarily exclude, by any means, a large, surgically important, subdural hematoma. The spinal fluid usually is not xanthochromic or otherwise characteristic in any of its findings except, perhaps, an elevated spinal fluid protein may be present in the presence of a chronic subdural hematoma. When one suspects such a lesion, bilateral diagnostic burr openings in the skull (as many as six in all may be made) are indicated and should be carried out, usually without resorting to a spinal puncture. In all types of acute head injuries today in our clinic, we resort to spinal puncture only in ten to fifteen percent of the patients, as it is valuable only in determining spinal fluid pressures in individuals who do not do well (especially with respect to state of consciousness), to detect the presence of marked subarachnoid bleeding, and not often is it of any real value as a therapeutic procedure. Its use in simple uncomplicated concussion is certainly not indicated.

The state of consciousness is still the most important neurological sign to observe in cases of acute head injury, also in brain tumor suspects. The pulse, blood pressure, temperature, and respiration are observed carefully and at frequent intervals, but above all these clinical observations in importance is the degree of consciousness. One must be careful to distinguish it (stupor) from aphasia, in which latter instance the patient may be quite conscious and rational, but unable to speak a word if he has complete motor aphasia. When we see an individual on the wards who is suspected of having a brain tumor and whose state of consciousness deteriorates markedly overnight, it is not rare in our clinic to cancel early morning elective procedures, such as protruded spinal discs or tic douloureux or Menière's disease operations, and substitute such a problem case for an early morning ventriculogram, as that is certainly a warning signal, especially when accompanied by vomiting and bradycardia. It takes an alert resident surgical staff, which makes early morning rounds, to detect these cases who have a need for urgent surgery, in order to obtain the best results in such patients.

The spinal fluid pressure, in some brain tumor patients, particularly those with neoplasms above the tentorium, is sometimes normal; we have seen meningiomas the size of an orange in a frontal lobe with a normal spinal fluid pressure of one hundred fifty to one hundred sixty millimeters of water, or less.

Cerebral angiography has come to the forefront a great deal in recent years, and in some clinics almost replaces air injections (the "tried and true" method for forty odd years) in localizing intracranial mass lesions. Actually, when used in combination with ventriculography or encephalography, the most information is obtained, and we resort to this combination frequently today in our clinic. Its greatest value (angiography), of course, is still in demonstrating intracranial vascular lesions such as aneurysms and arteriovenous fistulae, but it is also helpful in demonstrating mass lesions of the brain, such as tumors and intracerebral blood clots, now that the normal x-ray appearance of the cerebral vessels is so well known from the published atlases on the subject.

In the field of peripheral vascular disease, it is believed now by us that the introduction of angiography of peripheral vessels, such as the femoral artery, has been of great help in distinguishing which of the patients with intermittent claudication, threatened gangrene of the toes, resting foot pain, and similar peripheral vascular complaints, have segmental occlusion of the femoral artery, which can be best treated by localized resection of that occlusion and substitution perhaps of an artificial prosthesis, or endarterectomy by the vascular surgeon, whereas those who do not have occlusion of major vessels still are subjects for lumbar sympathectomy. It is possible to increase significantly the peripheral surface and subsurface blood supply, and the temperature of the foot or hand by sympathectomy, even when there is a major occlusion of a peripheral artery of that extremity. This fact is sometimes lost sight of in the recent enthusiasm for vascular surgery of the extremities.

Sometimes a lumbar sympathectomy permits a below knee amputation, whereas, otherwise, a mid or upper thigh amputation would have been necessary in a diabetic. We do hold. however, that in years gone by, in many instances, lumbar sympathectomies were probably done in individuals who today would better have had segmental resection of an occluded, or almost occluded, femoral or popliteal artery instead, or an endarterectomy. In other words, before we would carry out lumbar sympathectomy today for peripheral vascular disease of the legs or feet (in practically every case) we would first like to see well carried out angiograms of the peripheral vascular tree in that extremity. Lumbar sympathectomy also may produce a surprisingly good result in a case in which the response from novocain lumbar sympathetic block or spinal anesthesia was rather poor, or equivocal at

With reference to pallidotomy for Parkinson's disease and similar lesions of the basal ganglia, we are selecting these cases considerably more critically now than we would have done several years ago. We prefer that the patients not be over sixty-three years of age, that the disease is predominantly on one side, and the patient is still ambulatory though perhaps with some reduction of wage earning capacity. We have now almost abandoned Cooper's method of alcohol injection in the basal ganglia in favor of the pallidotomy procedure of McKinney. In this method an instrument, hardly larger in diameter than a ventricular needle, is introduced into the region of the selected area of the basal ganglia, and a lesion the size approximately of a one cent piece is made by introducing a special wire instrument in different horizontal quadrants at a certain prescribed level controlled by ventriculography. We do not hesitate to repeat this procedure in a few days in a slightly different area if the tremor or rigidity has not been entirely abolished, or if it returns in a few days, after having been temporarily eliminated by the initial operation. It is known now that one must destroy a certain amount of the ventrolateral nucleus of the thalamus to obliterate Parkinsonian tremor, whereas rigidity is best eliminated by destroying the medial portion of the adjacent globus pallidus. Progress is being made slowly, but surely, in these crippling and disabling diseases. Ultrasound is being used now in some of the research centers, but it is not applicable as yet as a surgical procedure in the average large general hospital, as it is still too elaborate, time consuming and formidable a procedure. It may be that it will be the ultimate answer to producing small, precise, destructive lesions in any selected area in the brain, at some later date.

Myelography with Pantopaque® is still used widely in the demonstration and localization of protruded discs. However, as with practically all laboratory tests, it is not perfect, and we know now for certain that it often will not show a lesion at the fifth lumbar interspace, whereas it may actually be there and surgically important, but located too peripherally at the foramen of exit of the nerve from the spinal canal to show conclusively on the oil films. It usually will demonstrate a surgically important lesion at the fourth or third lumbar interspaces, or even higher. However, we have now done so many of these oil studies through the years that we have met with some unusual situations, such as the oil defect being on the side opposite the painful leg in protruded disc cases, and again the oil can definitely show a false defect, particularly if there has been a previous operation and muscle or gelfoam has been placed at the interspace; this will produce definite indentation of the oil column and will deceive the unwary observer into interpreting it as evidence of a probable recurrent disc! Likewise, the presence of the bevel of the needle at the interspace where the oil defect is located makes proper interpretation of that defect practically impossible so far as the presence or absence of a protruded disc is concerned. The needle should be removed and the patient refluoroscoped before determining definitely about any defect at that space. The ideal material has yet to be found for myelography, in our opinion, as Pantopaque is not

absorbed if any of it is left in the subarachnoid space; this is always undesirable in any contrast-media substance. The ideal spinal contrast medium, in our opinion, has the following characteristics: (1) useful in fluoroscopy; that is, having sufficient viscosity to be feasible for fluoroscopy, (2) it should be absorbed if not entirely removed at the end of the procedure (and sometimes Pantopaque simply cannot be removed in part or in toto by the most expert myelographer), (3) it must be nontoxic to the individual, and (4) it must cast a sufficiently good shadow fluoroscopically and in the films made with the oil in the canal to enable accurate interpretation to be made. These four criteria have as yet not been found or developed in any one substance for myeloggraphy to our knowledge; undoubtedly, however, it will be developed by some future persistent investigator working with expert pharmaceutical chemists. It certainly constitutes an ideal research problem for a researchminded Neurosurgeon!

In myelography, for the identification of discs and cord tumors, as in many branches of surgery depending on radiologic findings for localization, the defect in the oil column should be consistent with the location and the side of the pain or sensory level, or one is headed for disaster in exploring areas showing "defects" on myelography alone without precise clinical correlation. The inexperienced resident, especially, must be very careful to avoid this. This is also true in localizing cord lesions in the lower cervical and thoracic area; that is, if the oil defect is not consistent with the clinical findings, particularly with respect to sensory level on the body surface, one had better think twice at least before operating at the level of the oil defect only.

One of the newer lesions which is now being attacked surgically is stenosis of the carotid artery in the neck as a cause of certain "strokes," preceded by transient symptoms of vertigo, weakness or paresthesia of an arm or hand or leg and perhaps temporary aphasia, if on the left side. Arteriography of the carotid vessels may show marked stenosis usually in

the region of the bifurcation of the carotid artery in the neck or lower down where the innominate artery arises from the aortic arch. Resection of the arterial plaque, which is usually the cause of this stenosis, often affords marked improvement in the cerebral symptomatology and undoubtedly is one method of salvaging a small group at least of incipient stroke cases from otherwise quite serious and often hopeless conditions. Once the carotid has been completely occluded spontaneously, the surgical results are much less satisfactory.

Another neurosurgical procedure widely employed today is hypophysectomy for the relief of severe widespread malignant pain, usually from carcinoma of the breast, also to prevent rapid dissemination of the disease. Bronson Ray at the New York Hospital and Herbert Olivecrona of Stockholm, Sweden, have been pioneers in developing the feasibility of this procedure, the entire pituitary gland being removed surgically by the usual approach used in attacking a pituitary tumor. In about fifty percent of cases, complete removal of the pituitary gland in individuals who have carcinoma of the breast with definite metastases, either in the spinal-pelvic axis, or in the lungs or other organs, can be very materially helpful, both with respect to (1) rather immediate relief of pain and (2) definite regression of metastatic lesions already present in the lungs and skeleton and undoubted prolongation of the time before new metastases develop. It is, of course, never life saving, but undoubtedly has an appropriate place in our armamentarium for the relief of symptoms and prolongation of a relatively pain-free existence in metastatic carcinoma of the breast.

Recently, by means of a cyclotron, in Berkeley, California, (University of California) and also in Sweden, as much as twenty-seven thousand roentgens of therapy have been delivered to the pituitary gland through the intact skull in a few days, destroying it entirely with approximately the same results therapeutically as one obtains with surgical ablation, but as this highly technical radiological equipment is not readily available in all hospitals, surgical

ablation of the pituitary gland will probably be the procedure of choice for some time to come.

Finally, the question of electroencephalography (EEG) has been much discussed in medical journals (also in lay journals!) in recent years, as every physician knows. It is our belief that, generally speaking, its value has been overemphasized in the study of clinical neurologic and neurosurgical problems. It is an interesting and useful research tool, has certain real values in localization of the cerebral lesion in epilepsy, but in resorting to it in diagnosis of brain tumor and subdural hematoma, for instance, and in the interpretation of findings and determination of therapy in acute head injury and postconcussion problems, its value is extremely questionable, and indeed, in the writer's opinion, sometimes distinctly harmful and misleading.

Paul Bucy,* of Chicago, one of the most astute and critically minded (in the best sense) neurosurgeons actively working in the field today, has recently written an illuminating guest editorial in the J. A. M. A., which outlines these ideas very clearly:

Bucy, in his vast experience, points out that, while it is apparent that certain electroencephalographic wave patterns are found most often in normal, healthy people, while others are seen most commonly with cerebral disease, it is also true that five to ten percent of apparently normal, healthy people have electro-encephalograms that are abnormal. It is believed by us that in acute head injuries, when electroencephalograms are made shortly after trauma and abnormalities found, they (such abnormalities)

mean very little in many cases unless one would happen to have electroencephalograms on that individual before the accident. The medico-legal implication of this fact is obvious but important. The reason for this is that birth trauma, meningitis, and other early lesions which the brain of a developing child may suffer, are capable of producing gross brain wave abnormality years later, and might confuse the picture very much when they are found in such individuals who have recently also had head trauma. Bucy emphasizes, and we also have experienced this, that, particularly adult patients may have convulsions and have entirely normal electroencephalograms, and still other individuals may have verified brain tumors, or subdural hematomas, or subarachnoid hemorrhages, and have normal electroencephalograms! The EEG will not indicate the presence within the brain of a cystic cavity that is not under tension. It does have a typical wave pattern in association with petit mal epileptic seizures and with psychomotor or temporal lobe epilepsy. Independently, however, the electroencephalogram is often nct a trustworthy diagnostic instrument. No one, by this means alone, can make a satisfactory diagnosis of epilepsy, brain tumor, or a traumatic injury of the brain. This is the present state of our thought, knowledge, and belief regarding electroencephalography. When used on patients, it should be properly evaluated with the clinical history, the neurological and general physical examinations, and other laboratory tests. As Bucy so aptly states, we have not yet achieved "push button" medicine, and the electroencephalogram is not neurology's "diagnostic machine."

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^{*} Bucy, Paul C. Electroencephalography's Proper Role. Guest Editorial, J.A.M.A. 160:1232-33, April 7, 1956.



TYPHOID FEVER

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With the improvement of sanitation and hygiene in the cities of this country, plus active immunization and other factors, a few diseases, formerly seen frequently, have almost disappeared: among these is typhoid fever.

Whereas in the past most typhoid cases have been believed to originate from water or food contamination, today we look for the typhoid carrier as the chief source. A carrier may be defined as an individual who harbours within his person the causative organism of typhoid fever without evidence of the disease, yet who is capable of passing it on to others, either by direct or indirect contact. Such individuals harbour the organisms either in their stools or urine, principally the former, though draining osteomyelitic fistulae have also served as sources.

The diagnosis of typhoid must be confirmed by laboratory methods since the disease varies greatly in its course, duration and clinical manifestations and simulates, or may be simulated, by other salmonella infections and other longcontinued fevers, such as brucellosis, Q fever, miliary tuberculosis, infectious mononucleosis, and others.

Many cases, particularly in children, but occasionally in adults, run a very short course of seven to ten days and get well by crisis.¹ This fact has not been well recognized in this country though thoroughly exploited in the German Literature.²

From a laboratory standpoint,* the clinical

diagnosis may be substantiated by positive blood, stool or urine cultures, or by a rising titer of the Widal agglutination reaction in specimens taken a week or more apart, the titer occasionally falling again in the last week of the disease or during convalescence. In some instances, patients do not develop a positive agglutination reaction at all, and we have consistently diagnosed many cases in this hospital by the sole occurrence of positive blood cultures alone. We routinely take more blood for culture after the first week of the disease at a time when bacteremia is declining and fewer organisms are present in the blood. Under such conditions, the usual small 10 cc. blood culture is abandoned: instead, we take 30 cc. of blood and incubate it in 100 cc. of bile broth medium. We then use specific antisera for final comparison and authoritative bacterial identification, testing against Kauffmann-White Group D, flagellar H. and Vi antisera.

It is very common to find typhoid bacilli in the urine after the second week, should the disease run that long under modern management. Ten cc. of urine are centrifuged at 3,000 RPM for fifteen minutes. The resultant

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^{*} All laboratory procedures are done under the direction of Jean W. Dedrick, Ph.D., Director of the Communicable Disease Laboratory, Los Angeles County General Hospital.

TABLE I DIAGNOSTIC CRITERIA IN 130 CASES OF TYPHOID FEVER*

POSITIVE DIAGNOSTIC TESTS	NUMBER	BASIS OF DIAGNOSIS
Blood Culture	13	By blood culture alone. Widal reaction was negative.
Widal Reaction	24	By this reaction alone, (except for one patient who had a positive bile culture).
Widal Reaction and Blood Culture	53	All but two were based on these two tests alone. (One had positive culture from cholecystectomy; one from thumb lesion.)
Stool Culture, and Either Blood Culture or Widal Reaction, or Both.	47	Only eight cases were diagnosed on basis of fecal culture alone.
Bile Culture After Aspiration	8	In one case, there was no other diagnostic response.
Urine Culture	3	Two cases also diagnosed by blood culture and Widal reaction. One diagnosed by stool and urine.

^{*} Communicable Disease Unit, Los Angeles County General Hospital (June 1953 to August 1959).

sediment is cultured in tryptose broth, and in Shigella-Salmonella and eosin-methylene blue agar. Motile, flagellated, non-lactose fermenters then are identified as outlined above.

Just as typhoid may run a very short course and end by crisis so, in untreated cases, it may persist as a long-continued fever for many months, instead of just the classical four-weeks period.

Today typhoid fever is rarely diagnosed during the first ten days, but it is treated with antibiotics under some other diagnosis, most commonly influenza. This is due to a low incidence of suspicion, and to a lack of experience with typhoid fever on the part of the doctor. Indeed, most cases are accidentally identified by a positive Widal when "routine agglutinations" or blood cultures are ordered. It is no uncommon thing to see an order on a chart written for an agglutination for typhoid to be run on patients whose white counts are twenty to thirty thousand with sixty-five to eighty percent neutrophiles. Such high counts simply do not exist in uncomplicated typhoid fever cases: the two rare ones I have seen both had stones and empyema in the gallbladder. As a rule, typhoid cases have a normal or low white count with a relative lymphocytosis especially after hydration to overcome hemoconcentration.

The incubation period usually is ten to fourteen days, sometimes longer, sometimes shorter, depending upon the infective dose and individual susceptability and immunity. Second attacks formerly were very rare, but did occur: now they may recur in twenty percent of cases apparently cured by chloramphenicol therapy, unless the patient be vaccinated at the completion of treatment, just as though he had never had the disease. Chloromycetin, like the corticosteriods, interferes with a full development of the reaction of immunity.

While chills may occur abruptly at the onset of typhoid fever, usually it starts gradually, with chilly sensations, anorexia, malaise, headache, often epistaxis, generalized aching more pronounced in the back, and either diarrhea or constipation. Capillary bronchitis is present in about forty percent at the onset.

If untreated in the first week, the fever rises higher each day than it was on the previous one, with morning remissions. The temperature levels off after seven to ten days and runs a chronic febrile course. At first the pulse is dicrotic and the usual pulse-temperature ratio

is not followed, the pulse being slow. Later it may become fast and thready.

Insignificant rose-spots occur between the seventh and tenth day. They fade on pressure and are often best seen around the periphery of the abdomen, except in infants, when they occur on anterior surfaces of the extremities or face, and tend to be more numerous than in the average adult case. A crop of rose-spots lasts about four days, and may terminate with one crop, or continuous crops may appear until defervescence.

Splenomegaly may be detected in the second week by percussion in the left midaxillary line, or by abdominal palpation or percussion. Anemia and leukopenia are characteristic of the disease and there is a relative lymphocytosis which progresses during each week of the disease. Delerium and stupor are observed and the patient may enter the typhoid state, described as follows: Symptoms level off and run a continuous course. Coma-vigil and muttering delerium are present. The pupils are dilated, the eyes open and unwatered. The patient tends to slip to the foot of the bed. He picks aimlessly at the bed clothes (carphologia). There is twitching of the tendons of the long muscles (subsultus tendinum), best seen at the wrist. While the above symptom-complex occurs in other toxic fevers, it is so characteristic in untreated typhoid fever that the syndrome bears its name, the typhoid state. In classical typhoid fever, the third week is the week when complications are dreaded. Sloughs occurring in the involved lymphatic structures may cause perforation or hemorrhage from the Peyer's patches or the solitary follicles of the colon. The fourth week of the disease is the week of convalescence.

Albuminuria and casts are part of the disease.

Typhoid is protean in its symptomatology. During epidemics "walking typhoid" cases are seen. Their ultimate prognosis is bad. Abdominal symptoms may predominate, such as tympanites, pain, rigidity, nausea and vomiting. Severe pharyngitis may dominate the picture, or bronchitis, broncho- or lobar pneu-

monia, or nephritis may be the chief cause of concern, and finally central nervous system involvement with meningismus may dominate the picture.

Sixty to seventy-five percent of all deaths occur due to complications: modern therapy is reducing, but not preventing death, unless started early.

Perforation of Peyer's patches is the commonest cause of death, usually late in the second or during the third week. Most such cases die. There is sharp abdominal pain, pinched facies, fall in fever, rapid pulse, rising white count, abdominal rigidity, nausea and vomiting. Operative repair must be done immediately. Still most of them will die. The usual picture present at operation is one of perforation of an ulcerated Peyer's patch, with several others also about to rupture and requiring surgical attention.

Next in importance is intestinal hemorrhage. It manifests itself by increased apprehension, a sudden drop in fever, an abrupt rise in pulserate, pallor, sweating, hypotension, and occasionally with epigastric pain. It may be profuse or slight. The patient may have tarry stool from the small intestines, or rusty or bright red blood from the lymph follicles of the colon. If untreated, the mortality rate is high.

Other complications are less common and consist of pneumonia, thrombophlebitis, myocarditis, pericarditis, nephritis, spondylitis, and many others.

Typhoid is a preventable disease and intelligent people should keep immunized against it by vaccination at suitable intervals.

However, vaccination alone is not responsible for the remarkable decrease in the number of cases occurring in this country; the credit for this must go to the various public health agencies at all levels which have purified and protected our water and food supplies, installed modern sewerage systems, and in general cut off the infecting organism at its source, also detecting and handling typhoid carriers to the public's benefit. H. Gideon Wells of Chicago used to speak of typhoid as the product

of a short circuit between the anus of one man and the mouth of another.

Treatment. While the treatment in general is supportive and that of its various complications or sequelae, the specific treatment of typhoid fever per se today consists almost entirely of the proper administration and dosage of one drug alone, chloramphenicol (Chloromycetin®).

Prophylactic treatment by vaccination should be given to all travellers, with boosters every three years to people under age forty. Hypodermic administration of the vaccine should be given and the site of election is the posterior axillary fold. This causes much less reaction than when given at the usual site, the insertion of the deltoid in the upper arm. If going into an environment where typhoid is known to be prevalent, a booster should be given regardless of the time element. Oral vaccination, once practiced, is obsolete and was never effective.

General supportive measures should be employed in active therapy. The draw sheets on the bed should be kept tight with plenty of talcum between the sheets. The patient should be turned frequently and the pressure points of the body inspected daily and steps taken to prevent pressure sores from developing on them. The tongue and teeth must be scrubbed daily by the nurse if necessary to prevent sordes. The diet should be high caloried and bland. Milk often is badly tolerated and forms gas.

One single drug stands out above all others today in the treatment of typhoid fever—chloramphenicol. The dose for adults is 65 mg. per Kg. of body weight in each twenty-four hour period: for small children 125 mg. per Kg. of body weight in twenty-four hours, or until fever breaks; this is given intravenously. The twenty-four hour dose is evenly divided into three

parts and the amount of fluid used in giving it is figured daily as a part of the total twenty-four hour fluid intake. The fluid used will vary from 80 cc. to 200 cc. at a dose for infants, and from 500 to 1,000 cc. for older patients or adults. Note that the dose in small children is twice the adult dose.

After stopping intravenous use, chloramphenical continues to be used in the same twenty-four hour amount and divided into three eight-hourly doses, but now given intramuscularly. This is continued for four to seven days, depending upon the condition of the patient.

Daily white and differential blood counts are taken. So far, we have had no trouble with chloramphenicol as a causative agent of malignant neutropenia in typhoid, a disease which itself is a cause of varying degrees of neutropenia, a factor requiring constant observation.

It is conceivable that occasions may arise when cortico-steroids legitimately should be used in a particular, single case to aid in overcoming some complication. So far, we have not used them. Their routine usage is condemned as it may mask serious signs or symptoms and it neither improves the results obtained by therapy with Chloromycetin nor shortens the time of treatment. In addition, like Chloromycetin itself, the corticosteriods interfere somewhat with the development of immunity, a problem already present in treating typhoid with chloramphenicol (Chloromycetin®).

One out of every five patients treated with chloramphenicol will have recurrent typhoid fever sometime after the apparently successful completion of therapy, unless vaccinated with typhoid vaccine just as though he had never had the disease. Vaccinate these patients yourself: if they are merely instructed to have it done, they do not comply.

Summary

Typhoid fever still occurs in the United States. It is usually misdiagnosed as influenza

or something else, because of the doctor's low incidence of suspicion.

Once diagnosed, the tendency is to treat typhoid patients with inadequate dosage of chloramphenicol, particularly in children whose dosage on a weight basis is double that of adults. It must be given by hypodermic methods. The routine use of corticosteroids in the treatment of typhoid is unnecessary and to be deplored.

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CONGESTIVE HEART FAILURE IN CHILDREN

"The majority of cases of heart failure in childhood occur during the first year of life in patients with congenital cardiac malformations. Anomalies resulting in increased blood flow through the lungs and increased pulmonary vascular resistance are the most common causes of failure. Aspiration pneumonia is a common complication. Right heart failure is more commonly seen in infants and children than left heart failure. Right heart failure leads to engorgement of liver sinuses with atrophy of liver cells in the central areas but not to cirrhosis of the liver during the first year. Other viscera show acute congestion without obvious cell damage. Left heart failure leads to a brief terminal illness or sudden death, and extracardiac changes are inconspicuous. Chronic passive congestion of the lungs is rare in infancy. Cyanotic heart disease is accompanied by congestion, plethora, and cyanosis of the organs, notably the brain. Embolic lesions of the brain are not uncommon complications of right-to-left shunts, occurring in 18 percent of autopsies in such cases. Tachypnea and hepatomegaly are early common clinical manifestations of failure while peripheral edema is unusual with the exception of 'chipmunk facies' in the cor pulmonale associated with cystic fibrosis of the pancreas. The principles of treatment are the same as for the adult and include the use of digitalis, diuretics, oxygen, morphine, and a restricted sodium intake."

SIDNEY BLUMENTHAL and DOROTHY H. ANDERSEN J. of Chron. Diseases (1959), Vol. 9, No. 5, Pp. 600-601

Chronic Myelogenous Leukemia

CASE REPORT

L.W., Female, Age 35

Presentation: Dr. W. Clarkson Discussion: Dr. V. Ginsberg

DR. LONG (CHAIRMAN): The patient who will be discussed today by Dr. Clarkson is Mrs. L.W. who has chronic myelogenous leukemia.

DR. CLARKSON: This is the second admission to the Kings County Hospital of a 35-yearold Negro, female, factory worker. She was admitted the last day of July, with complaints of pain in the right thigh which radiated to the knee. The present episode began approximately three days prior to admission when the patient developed low backache. Then an aching sensation appeared in her right thigh which radiated to her knee. On the second day, the symptoms became ameliorated without any particular medication. On the day of admission she again had pain, this time in the left thigh with radiation to the knee. She had been to another hospital, where she was given some white pills, and then was referred here

with a note stating her temperature had been 104°F.

Her past history was essentially unimportant except for a possible history of malaria at the age of ten. The family history is unimportant. A review of her symptoms was essentially negative. The patient denied any previous episodes of night sweats, and any swellings in any part of her body. The only particular thing she has had in the last two years was irregular menses. There had been one episode similar to the present illness about three or four months prior to the present admission, at which time she had been treated in a Clinic of this hospital with white pills.

On physical examination at time of admission her blood pressure was 140/80, pulse 100 and regular, temperature 102.6°F; respirations were 20. She appeared as a well-developed, well-nourished, negro female in no acute distress. Positive physical findings were limited to a painful sensation in the left groin on any motion of the left leg. There was no lymphadenopathy discovered at that time, no organic enlargement, and no murmurs were described in the heart.

On admission laboratory studies showed a hemoglobin was 11.2, a hematocrit of 38, a corrected sedimentation rate of 30, white blood cell count of 26,000, with 55 percent of polymorphonuclear leukocytes with a shift to the left, lymphocytes 36 percent with many atyp-

From the State University of New York, Downstate Medical Center, and the Kings County Hospital Center, Brooklyn, New York.

ical lymphocytes, monocytes 8 percent, eosinophil 1 percent. Urine-specific gravity 1.002, tests for sugar, acetone, and albumin were negative. The sediment was normal.

The patient continued to have a high fluctuating fever. Intermittently she did get some aspirin. Her white blood cell count ranged between 35 to 60,000 during this period. On the tenth day, a blood culture was reported as positive for non-hemolytic streptococci. At this time patient was given 12 million units of penicillin per day. Several days later two grams Chloromycetin® per day were added. This was given intravenously. She continued on this therapy with no apparent response of the temperature nor of the white blood cell count up until the 24th of the month, at which time her blood culture was reported as positive for Staphylococcus Aureus coagulase negative. At this time Achromycin® was added to the antibiotic therapy. On the 26th, two days later, all antibiotics were discontinued. During this period no additional physical findings were reported. On approximately September 4, the patient became afebrile. However, the white count persisted in the vicinity of 35 to 60,000. Around this time enlarged posterior cervical nodes were noted. A biopsy was done of one of these nodes and the section was reported as showing mild reticuloendothelial hyperplasia. The patient had a normal temperature for the rest of the month. Toward the end of September her liver and spleen became palpable.

At the beginning of October, physical examination revealed the patient to have enlarged posterior cervical nodes, localized sternal tenderness around the 4th or 5th interspace, a liver that was 3 to 4 cm. below the right costal margin, and was smooth and not tender. The white blood cell count this time was still elevated in the same range. A biopsy of the liver was done at this period, and the histological report was "strongly suggestive of myelogenous leukemia." Patient was started on Myleran® 8 mgms. a day. At that time the white blood cell count was 70,000. The white count showed a steady and progressive fall. Ten days after the initiation of therapy the size of the liver

had decreased while the spleen was still palpable but smaller. There was no longer any localized external tenderness. After twenty days of therapy, no organs were palpable, and two days ago the patient's white blood cell count was down to about 8500. During this period the patient noted an increased sense of well being. She has not had any recurrence of the pain of which she complained on admission.

Dr. Long: Thank you, Dr. Clarkson. This is really an interesting patient. Dr. Ginsberg, will you continue the discussion, please.

DR. GINSBERG: I saw this patient early in the disease and to me she presented an interesting diagnostic problem. First, to decide whether the leukocytosis was an incidental finding with a patient who had a high fever. There are reports in the literature from Johns Hopkins Hospital of patients who have incidental findings of leukocytosis, when they were examined for pregnancy, or a fibroid of the uterus, but who had no other complaints or physical findings.

Secondly, the possibility that this patient had a leukemia and was having a fever for other reasons. I have seen a good many patients who had chronic myelogenous leukemia early in its course, without finding high fever in any of them. To have a high fever and no physical findings, no evidence of anemia, no evidence of a high metabolic activity, seemed rather unusual. So, the third possibility which arose was that of considering the fever and the leukocytosis together and deciding that a leukemoid reaction had occurred. A non-hemolytic streptococcus was reported by the bacteriological laboratory as having been found in a blood culture. This was considered to be a pathogen. We then looked for a focus of infection. The original symptoms of backache, and groin pain made us consider the possibility of (1) pyelonephritis and (2) of pelvic inflammatory disease. I have seen a course such as this in patients having pulmonary infection with pleural involvement. It is also possible to have a leukemoid reaction with fever due to neoplasm which is undergoing central necrosis of the tumor. Therefore, we made a search for focus of infection. We couldn't find any but considering the fact that the patient had a fever, and a report of non-hemolytic streptococci in the blood I suggested an intensive course of antibiotics be given.

We watched the patient to see what would happen during the course of antibiotics and there was no response. The fever continued. The patient still had no physical findings to suggest that her illness might be chronic myelogenous leukemia. The interns felt that it was chronic myelogenous leukemia but I thought differently at that time, because there were no physical findings, no edema, no increase in metabolic activity, such as perspiration, weight loss, etc. It was hard to conceive that a patient with none of the above and who had a temperature of 104° and a white blood cell count which was between 25 and 60,000 might have chronic myelogenous leukemia. We stopped the antibiotics and to our surprise the temperature returned to normal. She then developed cervical nodes, hepatosplenomegaly and the diagnosis became evident. There is no problem making the diagnosis of chronic myelogenous leukemia in a person who has a normal temperature, large liver and large spleen. Craver reported in seventy-five percent of his cases, sternal tenderness. This patient had that. The diagnosis of chronic myelogenous leukemia was made and the patient was put on Myleran. The patient has responded very well to Myleran. Usually it takes between ten and fourteen days to get a response. The patient has had the response to Myleran, a feeling of well being has occurred, the liver and spleen have disappeared, while blood cell counts are within normal limits. I looked at the smear this morning. There are still some myelocytes. There was one normoblast, many band forms and a few metamyelocytes. I think this is an interesting patient because I don't recall any patient coming in with a temperature of 102° to 104°, without abnormal physical findings, and a high white count.

There are other drugs which could have been used. The choice of Myleran was made because, for an internist, it is the easiest drug to use. There are available urethane, and radioactive metals, P-32, or radiation therapy and Dr. Lichtman just mentioned Colsamine® as another drug (colchicine derivative) which have been used.

DR. Long: Before you step down, Dr. Ginsberg, there is something which interested me about what Dr. Clarkson said when he spoke. Why do you suppose there were all of those atypical lymphocytes in the first smear? That interested me because here is something that I've never seen before. Dr. Dock, have you ever been in early enough on a chronic leukemia to see the patient before there was leukemia?

DR. DOCK: Well, I'm not sure the fever was due to chronic leukemia.

DR. Long: No, I mean before the white count would give the diagnosis away, because this original white count of 20-odd thousand and fifty-five percent polymorphonuclear cells, was with twenty-five percent atypical lymphocytes was odd. I don't remember ever having seen that.

DR. DOCK: No, I have never seen anything like this, but I suspected that this patient, like our first patient today, may have come to the Kings County Hospital after having what the Board of Health calls the "Asiatic Flu" but I think it is more appropriate to call it "Flatbush Fever—57 Varieties," and neither of them would have come to see us on account of their chronic diseases, if they hadn't had a current infection.

DR. Long: That is right. What do you think about those atypical lymphocytes.

DR. GINSBERG: I think the patient had the influenza in retrospect. I didn't think so then. We weren't talking so much about influenza in July, but I think the patient had it.

DR. CLARKSON: The first slide was reported upon by the intern using one of the "standard" microscopes available in certain laboratories in the hospital. These are not always in the best of working order.

Dr. Long: I am very much interested in this. I would like to say that in a 35-year-old woman, whose urine I suspect is normal, and who had no murmurs in her heart, I would personally from my own experience with blood cultures would suspect the gamma strepto-coccus as being a contaminant, and certainly I would be sure that it was a contaminant when Staphylococcus aureus, coagulase negative was reported from a second blood culture. I am not surprised her temperature came down when antibiotics were stopped because that occurs frequently. She was probably sensitive to one of them.

DR. LICHTMAN: Of course a hematologist shouldn't see these patients early because a hematologist is supposed to be a consultant and to see after the patient's doctor has seen something queer. Then they are sent to the hematologist.

DR. LONG: Have you ever seen a patient this early in her disease before?

DR. LICHTMAN: No, I have to agree that the course this patient ran when she was first admitted, was not that associated with chronic myelogenous leukemia. One could not make such a diagnosis at that time. When a patient with this disease has a spiking fever, one must watch for much more evidence in the blood, for the young forms, for more severe anemia, and usually splenomegaly is associated with it. The terminal phase occurs when you get the temperature associated with splenic infarction. I think one would still worry about this patient having some odd form of leukemoid reaction, because there were really no young forms in the blood except for an occasional myelocyte.

DR. CLARKSON: There are many peripheral counts made which I didn't mention and which show that some myelocytes and metamyelocytes and occasional blast were present.

DR. LICHTMAN: So one could say she has a very early chronic myelocytic leukemia and in the next two or three years we will see the full development of this picture. One should not associate this clinical picture with chronic myelocytic leukemia in any phase.

DR. LONG: If the patient had influenza I would like to point out that in studies made by Dr. Stokes in Philadelphia in human volunteers, various strains of various types of influ-

enza were found to produce different types of blood pictures. For instance, he picked up one type that produced a true leukopenia in volunteers with relative increase in the lymphocytes. Ordinarily though, with the Type A and Type B strains which he used experimentally in the humans, you should have essentially a normal leukocyte count. However, there was one strain of Type A which in the majority of volunteers who were inoculated with it, produced a slight lymphocytosis. Now, characteristically in your textbooks, you will read that in influenza you have leukopenia, but in these experimental subjects it seems to vary with the strain. I am just bringing this out because in reading a great deal about influenza, I have never come across mention of leukemoid reaction in the course of, or after influenza.

May I ask, is it correct that this patient had had ten percent eosinophiles in her first differential count?

DR. CLARKSON: One percent.

Dr. Long: Oh, I thought it was ten percent. I was wondering if it was common to have that many eosinophils. Are there any more questions on this because I have a hunch, for most of you, it will be about 35 years, unless you are lucky, before you sit in a conference and hear about another patient like this one. I have never seen this before. I never heard of anyone who has.

May I ask in conclusion, what do you think, Dr. Ginsberg, is the prognosis for this thirtyfive year old woman?

DR. GINSBERG: I think the life expectancy of anybody who develops chronic myelogenous leukemia is probably between three and eight years. I suppose that sometimes chronic myelogenous leukemia can start so insidiously so as not to be recognized for three to four years. Assuming that that is a possibility, I would say from three to eight years, is considered the average once the diagnosis is made when the patient has hepatosplenomegaly.

Dr. Long: I hope that it will just be possible.

DR. LICHTMAN: One other thing, I would like to mention, Dr. Long. She is a Negress

and according to the statistics of Johns Hopkins Hospital where there were three white patients to one Negro patient, there were seven times as many leukemias among the whites than among the Negroes.

DR. Long: What I was wondering is that I hope over the years this patient can be followed in this hospital, because it would be very interesting to see how long it is from the really early onset of this disease, clinical onset, until the disease finally causes her death, which it will, unless she gets run over or something else happens sometime in the next ten years. Her course should be very interesting.

Follow-Up

By November 1957, the patient felt very well and had no fever. While she still had palpable lymph nodes, her spleen could not be felt and her white blood cell count was 20,000. She was discharged on a dose of Myleran of 2 mgms. four times a day.

She returned to the hematological clinic on December 13, 1957. At this time, her hemoglobin was 11.9 grams percent, white blood cell count 4,800, and the differential count was polymorphonuclear neutrophil leukocytes 47 percent, lymphocytes 47 percent, mono-

cytes 7, blast cells 2. Two nucleated red blood cells were also noted. Her platelets were normal. A few small cervical nodes were still palpable, and she weighed 179 pounds. All medication was stopped. She was seen in February, April, June, September, and November 1958. She felt perfectly well and had normal blood counts. In November 1958, she weighed 212 pounds.

On April 3, 1959, her white blood cell count was found to be 83,000, the hemoglobin 12 grams percent, and her spleen was enlarged 8 centimeters below the left costal margin. The differential white blood cell count at this time was characteristic of chronic myelogenous leukemia. In June 1959, the white blood cell count had risen to 113,000 and the spleen was still enlarged. The differential white blood cell count was typical of chronic myelogenous leukemia. Myleran, 6 mgms. per day was instituted. The dose was gradually decreased and stopped altogether in August 1959 because her spleen was not palpable, and her white count was essentially normal. Since August, her white blood cell counts have been normal, and it is very evident that this patient is enjoying a second excellent remission from chronic myeloid leukemia.

WHAT'S YOUR DIAGNOSIS?

Read the film and compare your findings with those of a top radiologist. SEE PAGE 33a



Medicine and Public Health

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For many years the physician in public health was looked down upon by the practitioners of medicine. There are still some medics whose knowledge in the public health field is so limited that they cling to this and other outdated concepts, but fortunately organized medicine has abandoned so archaic an attitude and has recognized public health medicine as a specialty, equal to other medical specialties and requiring equal or longer periods of professional education, training, and experience beyond that required for general practice.

There are now approximately nineteen hundred Board - certificated public health specialists in the United States. There are now one thousand and forty members of the College of Preventive Medicine—all recognized by the American Medical Association. We are a big and rapidly growing medical specialist group, and one that state and local medical societies would do well to recognize and use for our distinctive knowledge and competence.

There is, however, one "fly in the ointment" in this specialty's phenomenal growth and development. The terminology used for our specialty is "preventive medicine" rather than "public health." It is unbelievable, but true, that this simple semantic error has produced and continues to produce so much misunder-standing, controversy and criticism.

This association of "preventive medicine" and "public health" is natural. Public health was first associated with sanitation of the environment, later with medical indigency and welfare, and then with communicable disease control. With each of these areas, but particularly the latter, communicable disease control, the emphasis was placed upon preventive procedure, and so association became synonymous; with the terms, "public health" and "preventive medicine," being used interchangeably.

From the point of view of medicine and public health this was extremely unfortunate. In the first place the whole evolution and development of medical science in the past twenty-five years has been toward preventive medicine. Pediatrics, obstetrics and psychiatry have taken the lead in emphasizing and incorporating preventive service into the practice of those specialties, but every other medical specialty, and indeed, general practice, has become dedicated to preventive medicine. A larger and larger portion of all medical practice is becoming preventive in every sense of the word. Medical education is taking a leadership role in emphasizing preventive medicine by departmental status and by incorporating preventive medicine teaching into all clinical departments of their schools. Preventive medicine is good medicine, and the neglect of preventive medicine is poor medical practice and poor medical teaching. Now it is obvious that if public health is preventive medicine, we are committing the cardinal sin of infringing upon good medical practice in all fields-general and special.

In the second place, the whole history and evolution of public health science has been di-

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rected away from individual preventive medicine as it is practiced by the clinician, toward primary prevention, toward community prevention, controlling or changing the environment, or reaction to the environment of groups—not individuals.

Public health science has long recognized its responsibility and distinctive competence in other than the preventive field. It has been responsible for provision of hospital facilities, making available medical care, from venereal disease treatment to psychiatric treatment, education of the public to accept and use good medical care, providing health manpower for medical care from nurses aides to nurses, and from medical technicians to medical specialists. Geriatrics is a public health problem. We are not going to try to prevent-old age. It follows therefore that neither public health nor medicine can continue to use "preventive medicine" as synonymous with "public health" or as a definition of public health.

What then does delineate the science of public health from the science of medicine, since different aspects of preventive medicine are an integral part of both sciences? It is the purpose, focus or objective of public health science that is distinctive. The purpose, focus and objective of medical science is broadly the diagnosis and treatment of health needs and status of the individual. It is patient centered. Public health, on the other hand, is community centered. Its objective and purpose is the scientific diagnosis and treatment of the health needs and status of communities. Preventive, palliative, curative, rehabilitative services are essential in both public health and medical sciences.

Public health science, as medical science, is in an evolutionary process. Health science of 1850 was symptom-centered, the scientific diagnosis and treatment of symptoms. In the next fifty years it changed its focus completely and became disease or bacterial-centered—the diagnosis and treatment of disease. The third profound development came about 1900 with the concept of "clinical medicine"—again, with a change of focus from disease to the total individual, the diagnosis and treatment of the physi-

cal, mental, emotional and social individual as an entity, not merely an aggregate of electrons and atoms, cells and segments. We now recognize a fourth profound change and development in public health science which again changes focus, to the community, the diagnosis and treatment of the total community as a patient, an entity, and not merely an aggregate of individuals; an entity as distinctive from every other community as every individual is distinctive from his neighbor.

The ills of society are not necessarily the same as the ills of individuals composing that society as Canon Charles E. Raven states in the *Saturday Review of Literature* of June 7, 1958:

"We ought to be as prepared to look at the corporate madnesses and diseases of our time as searchingly and with as deep a sense of responsibility as we do the individual defects. I do not think we can cure the major evils of modern collective life merely by treating individual members privately and separately because I do not believe that the evils of our corporate life today are caused or can be cured by individual action.

"I believe what gives us our trouble is the acceptance corporately of methods, standards and procedures, which, as individuals, we should condemn as sub-moral, if not sub-human. I should like to see certain departments . . . equipped to study the diseases of corporate life. I believe there is room here for the application of precisely the same skills in diagnosis and treatment . . . which the medical man does."

The good Canon is apparently unaware of this concept of public health and that this is precisely what the science of public health is concerned with.

Now there is much that we can learn from our experience with this changing focus and evolution of health science throughout the past century.

Profound changes develop slowly. Such change is bitterly opposed by eminent scientists of every age. It took fifty years to overcome the opposition of the symptom-centered scientists of 1850 and to establish disease-centered basic science of 1900. The basic scientists of 1900 denied for twenty-five years the entity of a total individual. Their denunciation still rings in ears of some of us. "You cannot diagnose an individual. You can only diagnose disease-pathology." "An individual is only an aggregate of electrons and atoms-cells and segments. When those are right the individual is well." Nevertheless, clinical science has become accepted. Diagnosis and treatment of the total individual as an entity is taught and recognized as good medical practice throughout the world, although in actual practice the concept as yet may not have universal application. It should not then surprise us that the concept of the community as a patient, an entity distinct from any other community, with distinctive ills and states of health does not have universal acceptance and even some sincere opposition. It is, however, surprising how much more rapidly this profound change of focus and purpose is being accepted here and around the world than were the previous evolutionary developments of health science.

The correct diagnosis and treatment of symptoms does not always cure disease. The correct diagnosis and treatment of disease does not always cure the individual. "The operation was successful, but the patient died." The correct diagnosis and treatment of the individual does not always cure the community patient. In each era of health science there has been a tendency to assume that we "now" have the answer, the method, the technique, the magic drug, only to find that the sure cure of a symptom does not always cure the disease—the sure cure of the disease does not always cure the patientsure cure of the patient does not always cure the community—it does not always control or eradicate the disease.

Diagnosis and treatment of symptoms was a fairly simple matter. The subject became much more complex in the disease - centered era, and infinitely more complicated when it became patient-centered. The complexity of the physical, mental, emotional and social individual demanded skills and knowledge of many different specialists in the medical profession. Now the community patient is as much more complicated than the individual as the individual is over the bacterium. The background skills and knowledges for scientific diagnosis and treatment of a community, therefore, demand many more professional skills than the health professions alone. Besides the physician, dentist, nurse, and laboratory specialists there must be engineers, biostatisticians, nutritionists, educators, and social scientists. The basic sciences of public health-biometrics, epidemiology, community organization, and public health administration-bear the same relationship to the practice of public health as do the basic sciences of medicine to the practice of medicine. However, these basic public health sciences must be used by many different professional persons with widely varying professional backgrounds. No one background profession has a corner on knowledge or leadership role. A team of professional equals is needed to diagnose and treat the body politic. The doctor of the community is not an individual but this interdisciplinary team.

Although public health is then distinctive, has a different focus, has a different patient, uses a distinctive body of knowledge, and has a distinctive competence, it is still closely related and dependent upon old and new knowledge in all the health sciences and such related sciences as educational science, engineering science, and social or behavioral science, and uses the sophisticated skills of these sciences. Advances in any field may well be significant to public health theory or practices and vice versa.

This concept of public health science is rapidly gaining universal acceptance, although couched in many different terms and arising from many different needs and different individuals. It is perhaps being accepted too easily and too readily. Its implications are profound and the profound changes in practice required by this philosophy will not be easy and will take years to accomplish.

The first requisite is the democratic team concept of professional equals. The "doctor of

the body politic" being such a team, leadership on this team is the result of leadership qualities. Leadership is by the consent of those led and not by previous professional status. Public health is not a specialty of medicine alone. Although it requires public health medical specialists, it also requires public health engineering specialists, public health nursing specialists, public health education specialists, public health social science specialists. In this sense it is not a specialty, but rather a profession—a distinctive profession with distinctive qualities and with a distinctive patient.

The second requisite is scientific practice. We are all aware of the requirements of the scientific practice of medicine; how you must get a patient to want a diagnosis and follow a treatment; the carefully prescribed step you follow from superficial observation; patient opinion, history and physical examination and laboratory tests; to tentative diagnosis and prescription. The same is required for scientific diagnosis and treatment of the community patient. The trouble is that public health practice has been largely program-centered, service-centered, concerned with functions and activities. Instead of scientific public health practice, we too often render our community patient the kind of service which was out of date fifty years ago in medicine for the individual patient. Instead of pill-peddling, we peddle programs. We sell activities. We treat each community as if it and its ills were the same as every other community — castor oil and quinine in fall. sassafras and calomel in the spring - child guidance clinics, well child conferences, premature programs, sanitation programs, public health nursing programs - all irrespective of the chief health needs and problems of our patient. Indeed, we often know that these traditional programs do not meet the chief health needs of our communities, but they all must have the same "pink pills." We are so busy doing the traditional programs-some required by law—that we have no time left to make a scientific diagnosis or to measure the effectiveness of our prescription and treatment. None of us would tolerate such "quack" practice for the individual patient, but we think it proper for the community patient. The implications of this concept force us to look at the community as a patient and this is very disturbing to the scientifically minded.

As we look at the past and contemplate the future in the light of this concept, many of our cherished beliefs are changed. It becomes obvious that most if not all the successful conquests of diseases and illness have not been the result of early diagnosis and treatment of individuals, but rather the result of changing the community environment or reaction to that environment. Typhoid, malaria, yellow fever, hookworm, cholera, plague - are all areas where early diagnosis and treatment failed completely and changing the environment by water purification, sanitation and insect and rodent control on a community-wide basis succeeded. Smallpox, diphtheria, whooping cough, and now polio, came under effective control only by changing the reaction to the environment by mass immunization. Epidemiological evidence is further confirming the fact that programs of early diagnosis and treatment in this country have had little or nothing to do with the control of tuberculosis or of syphilis. This is a very shocking fact, not because of giving credit to the past, but because of the implications for the future. With the major health problems of today-mental disease, heart disease, cancer, and accidents, what should be our approach? We are so wrapped up in the clinical science approach to individuals that only a tiny fraction of our funds, personnel, efforts, research, teaching or practice is channeled into the community approach, the only approach with hope of success. The vast health research, teaching, and service of our country is aimed specifically at early diagnosis and treatment of disease, although in no instance can we prove that this approach has conquered or controlled any disease in the past. The implications of this concept are indeed shocking and difficult to accept in an individual-centered society.

Lip service is paid to this concept by most educators in public health, but the educational implications would require a complete revision of educational curriculum and method. In all the other health professions and some other related professions, it is axiomatic that the best learning situations are not in the lecture halls or in the laboratories, but at the patient's side — bedside teaching, chair-side teaching, outpatient teaching. The professional schools are devoting a larger and larger percentage of their time to such instruction by clinical professors. In schools of public health we still turn the students "out to pasture" after lectures, laboratory work, and observation, but without any comparable closely supervised academic instruction at the patient or community side by "clinical professors of public health."

With all these difficult and profound changes that this concept of public health involves, what are its advantages? What does it do for us?

In the first place, it meets a crying need felt by people around the world. It is an evolutionary development that will eventually succeed whether we recognize and accept it now or not.

In the second place, it clarifies our relations with the practice of medicine. We are no longer in competition with medical practice. We have a different patient, a distinctive focus and purpose, distinctive skills, competence and responsibility. We must get out of doing medical practice—preventive, curative or palliative for the individual. That is not our competence or responsibility. Nor is it the physician's competence or responsibility to diagnose and treat communities.

In the third place, it avoids unnecessary duplication and overlapping of functions and activities. With the shortage of health manpower, we can ill afford waste and conflict. We can scientifically determine community health needs and possible treatment and follow the results of that treatment. We do not need to render that treatment ourselves any more than the family doctor must give the enema or do the brain surgery himself.

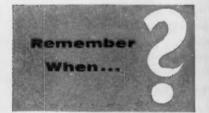
In the fourth place, it will challenge the best minds in medicine to enter the public health profession. Young physicians are not attracted to a profession or specialty based upon functions, uncertain of purpose and direction, confused and in conflict with his fellow practitioners, limited to administrative boredom or unlimited to incompetence. They are challenged by a new patient, a different patient much more complex than the individual, where they can win leadership by their own effort and excellence, where they may play a part in saving millions of people, or even civilization. Recruitment of young physicians to public health is urgently needed. Medical leadership in public health may well be in the balance.

In the fifth place, it provides sound guidelines for growth and development of: (a) research in public health, community research, primary preventive research, virgin territory which holds the same promises for the next fifty years that clinical research has provided in the past fifty years; It provides sound guide-lines for growth and development of (b) Education in public health with increasing emphasis upon "community - side" teaching, "patient - side" teaching; It provides sound guide-lines for (c) Scientific practice of public health with less program peddling and quack practice by routinized activities.

In the sixth place, it will stimulate public confidence and support. The public expects scientific practice. They distrust old quack remedies. They can and are willing to pay for scientific practice for individuals or communities, but they can tell the difference and they are losing confidence with the medical man or public health team that fails to practice its profession scientifically.

Medicine and Public Health must do more than passively adopt this concept—They must adopt, espouse, and champion this concept to assist public health to emerge as a community-centered scientific practice. Medicine has a tradition of leadership and vision in every era of health science—It cannot fail society today as we face the unprecedented and gigantic problem of World Health.

School of Public Health, University of North Carolina



Do you remember when . . .

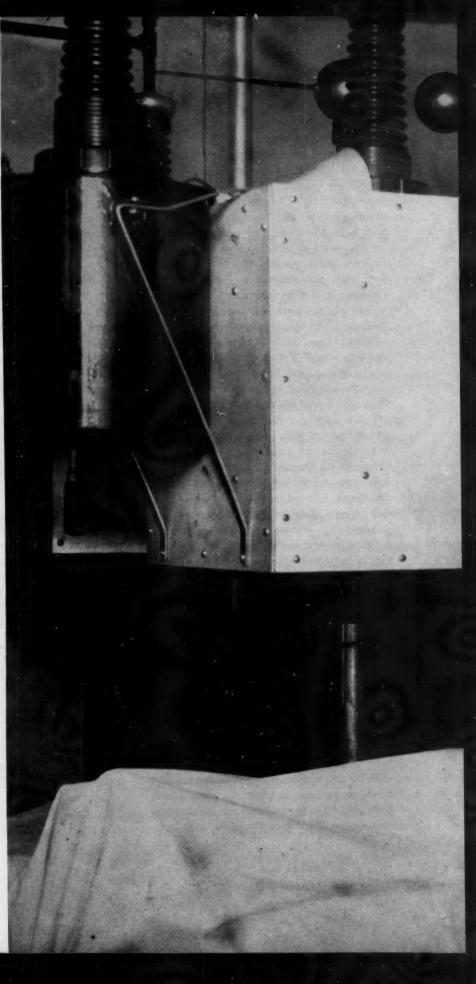
This high voltage unit was installed for the treatment of cancer in the thousands of poor in New York City? (We can't find out for sure.)

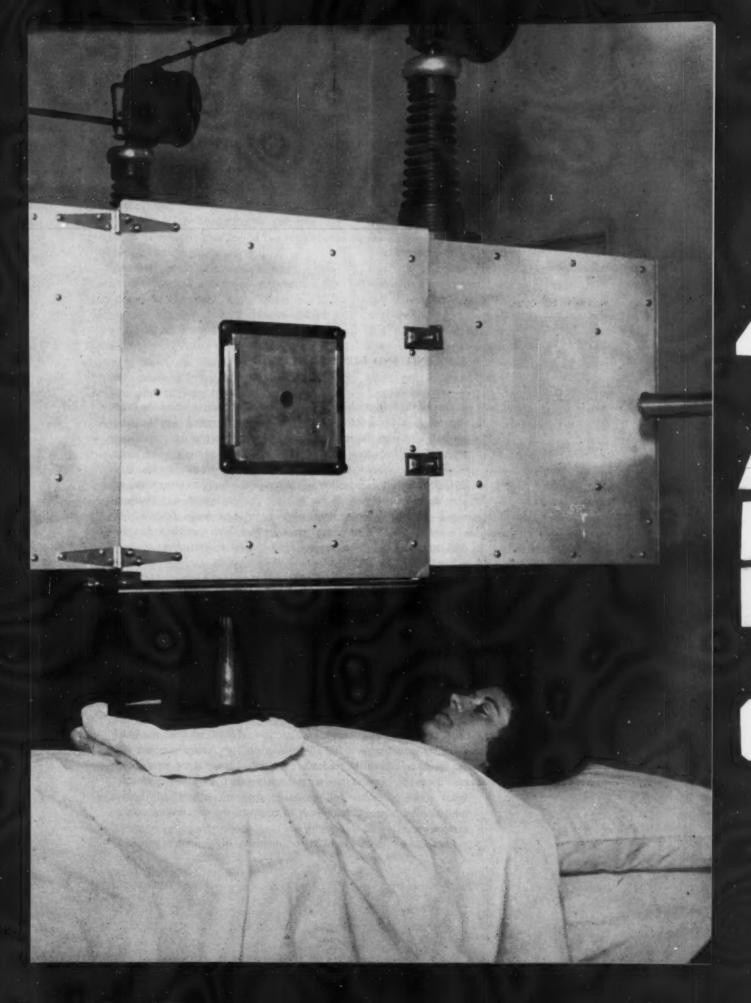
Cancer, the result of exposure to x-rays began to develop among the early workers in the field of Roent-genology?

Radium was first used in the treatment of cancer?

Shields were first used to protect patients against radiation?

Photo: United Press International





EDITORIALS

PERRIN H. LONG, M.D.



SMOKING AND LUNG CANCER

(Too many dogmatic statements?)

One of the things which has disturbed many people who have been interested in the controversy which has been raging for the past several years over the relation of smoking to cancer of the respiratory tract (particularly lung cancer) is the tendency on the part of those who believe tobacco smoking, especially the use of cigarettes, is a direct factor in the causation of cancer of the lung, to gloss over, or play down facts which do not fit their chosen hypothesis. Furthermore, at times sweeping conclusions have been drawn from a type of material which is subject to error, or bias, with the result that the data reported has been suspect, and the interpretation of it considered faulty.

It therefore should be of real interest to the readers of Medical Times to study the critical and provocative discussion of "The Problems of Measurement of Tobacco Smoking in Clinical Investigations and Epidemiological Surveys" by Harvey Haag and his collaborators which is the lead paper in this issue.

As is pointed out in this paper, an accurate diagnosis plus an accurate measurement of the smoking habits of the patient with cancer of the lung (and of all controls) are sine-qua-nons for any intelligent approach to a discussion of the etiology of lung cancer. But measurements of smoking habits based on the number of "packages" smoked, number of cigarettes smoked, whether the individual says that he is a "light," "moderate," or "heavy" smoker (or the observer arbitrarily grades him in one of these three categories) miss the mark, because they are not really objective in their approach. What some observers call moderate smoking, others call heavy smoking and hence, it is difficult to compare the conclusions of the various reporters on this problem.

Instead of "packs" smoked, or numbers of cigarettes per day,

Haag and his co-workers point out that the fact of overriding importance, and the only one which will produce meaningful data, is the effective dosage of tobacco smoke on bronchial and alveolar surfaces. It's not how much of the cigarette is burned, nor how much smoke gets into the mouth, but how much gets into the lungs, that is all important in assessing the relation of tobacco smoking to the occurrence of lung cancer.

Another point concerning which these authors could find little or no information has to do with "threshold" data. After all, it is important to know when, if cigarette smoke is a factor in the production of lung cancer, the danger begins. Along the same line, the variation in criteria for non-smokers and the duration of smoking in smokers as determined by various investigators has produced data with built-in biases from which, at times, sweeping conclusions have been drawn.

One thing which has characterized views of some of the protagonists of the thesis that cigarette smoking is the most important factor in the production of lung cancer is their myopic or parochial attitude towards the problem. Smoking (and especially the smoking of cigarettes), like drinking, is global in extent. Despite this, only too frequently due to an emotional, crusading, or punitive approach or to nationalistic thinking, or maybe because they are unable to see beyond their noses, data adverse to the hypothesis that cigarette smoking is the prime factor in the production of cancer of the lung is ignored as though it were an anti-social act to consider it. The recent report of Surgeon-General Burney of the Public Health Service, is of interest in this respect. It is the view1 of that Service according to his paper that:

- 1. The weight of evidence at the present time implicates smoking as the principal etiological factor in the increase in lung cancer.
- Cigarette smoking particularly is associated with an increased chance of developing lung cancer.
- 3. Stopping cigarette smoking even after long exposure is beneficial.

- 4. No method of treating tobacco, or filtering the smoke has been demonstrated to be effective in materially reducing or eliminating the hazard of lung cancer.
- 5. The non-smoker has a lower incidence of lung cancer than the smoker in all controlled studies whether analysed on terms of rural areas, urban regions, industrial occupations, or sex.
- 6. Persons who have never smoked at all, cigarettes, cigars or pipes have the best chance of escaping lung cancer.
- Unless the use of tobacco can be made safe, the individual person's risk of lung cancer can best be reduced by the elimination of smoking.

There is, in the Surgeon-general's pronouncement, no indication that data have been presented by other investigators which tend to weaken the premier conclusion in his paper, namely that "evidence . . . implicates smoking as the principal etiological agent . . . in lung cancer." As long ago as 1956 Eastcott2 reported some very interesting observations relative to lung cancer in New Zealand which tends to contradict this conclusion. He found that the incidence of lung cancer in British immigrants (men and women) who came to New Zealand after their thirtieth birthday was higher than in New Zealand-born persons of the same stock. Furthermore, this difference which had a high degree of statistical reliability, amounted to seventy-five percent in those immigrants who were over thirty years of age on entering New Zealand. As the smoking habits and consumption of tobacco in the British and New Zealanders is very similar, the only conclusion which could be drawn by Eastcott is that something in the previous environment of the immigrants other than tobacco was an important factor in the production of lung cancer. Furthermore, available data indicates that this factor was associated with urbiniza-

Burney, L. E., Jour. Amer. Med. Assoc., Vol. 131, 1829, November 28, 1959.

^{2.} Eastcott, D. F., The Lancet, Jan. 7, 1956: 37-39.

tion which suggests air pollution as an important factor.

Recently, similar and equally convincing data has been presented by Dean3 which shows that the same difference between British immigrants and native white stock, relative to cancer of the lung, exists in South Africa. Despite being the heaviest cigarette smokers in the world, white male South Africans have a relatively low mortality from lung cancer when compared to that of British immigrants in the same age groups. It was found that there was a very definite excess in lung cancer mortality among British male immigrants, who died of lung cancer below the age of sixty-five years. Again, as in the New Zealand study, it was shown that the lung cancer mortality rates in South African born, British born, or in male immigrants from other countries" increased approximately with the level of urbanization and industrialization for neither the differences between the lung cancer mortality rates of these three groups, nor the urban/rural gradient can be attributed to differences in smoking habits . . . Both would seem to have been due to the exposure of the men concerned to different degrees of atmospheric pollution." Dean concludes by stating, "The urban/rural lung mortality gradient in South Africa would appear to reflect the increasing atmospheric pollution that is encountered in passing from rural areas to areas of increasing industralization."

Interesting data relative to this subject have recently been reported from the opposite end of the World. Schaefer⁴ in his "Medical Observations and Problems On the Canadian Arctic" states: "If smoking alone causes lung cancer, we should expect to find many cases in the Eskimos and Indians who almost all smoke quite heavily, mostly cigarettes in recent decades. No bronchogenic carcinoma has been found, however, in Northern natives by our x-ray survey teams . . . While lung cancer has been found in Southern Indians, it is not known to exist in Northern Indians." Here again the

author incriminates air pollution as an important factor.

These three papers present data which strongly indicate, that in areas separated by many thousands of miles, a factor other than smoking is of real importance in the causation of lung cancer.

The Surgeon-General of the Public Health Service has stated that "it is a statutory responsibility of the Public Health Service to inform members of the medical profession and the public on all matters relating to important public health issues. The relationship between smoking and lung cancer constitutes such an issue and falls within the responsibility of the Public Health Service." What he does not say is that there is not an unanimity of opinion on the part of competent authorities relative to the interpretation of some of the data which he has presented.

This, we feel represents an unfortunately parochial attitude on the part of an individual who by virtue of his position should survey the scene with Olympian detachment. Instead, he has taken up the cudgels and has become a partisan in the controversy. This assumption of an all or none position by the Surgeon-General is indeed astonishing in view of the information being reported, which is in disagreement with his thesis. As Sir Ronald Fisher has said in "Smoking - The Cancer Controversy,"5 "My claim . . . is rather that excessive confidence that the solution has already been found is the main obstacle in the way of much more penetrating research as might eliminate some of them." Let us hope that the apparent attitude of the Surgeon-General of the Public Service does not create such an obstacle.

^{3.} Dean, G., Brit. Med. Journal, Oct. 31, 1959: 853-857.

^{4.} Schaefer, O., Can. Med. Assoc. Journal, Sept. 1, 1959.

^{5.} Fisher, Sir Ronald, Smoking—The Cancer Controversy, Oliver and Boyd, Ltd., Edinburgh, Price 2s.6d.

THE SOCIALISTS ARE STILL WITH US

Aime J. Forand's bill H. R. 4700 is still with us in this session of Congress. If it is enacted into law the recipients of Social Security payments are slated for Socialized Medicine. Mr. Forand argues that these people of sixty-five or older have lower incomes than the rest of the population. I would like to know how many people who are retired do not have a lower income than when they were working. When I retire I certainly do not expect my income to be as high as when I was actively working.

Remember of the sixteen million people over sixty-five today, some four million will be excluded under this plan since they are not eligible for Social Security. About seven million people over sixty-five are covered under voluntary medical programs. This leaves 4.7 million that would be covered under the Forand bill and several million of the seven million who presently have voluntary health programs of their own.

Legislation is now under consideration to modify the work test as a condition of eligibility. If this is done, according to the United States Chamber of Commerce, Social Security costs would go up about two billion dollars a year, so the rate would have to be increased again and will be nine percent in 1969 according to present legislation. And the Social Security System is presently in the red.

Today medical care for the elderly, is being provided by State and Local public assistance programs for those who are unable to pay. In my experience these people are being taken care of quite adequately for all their medical and surgical needs.

Mr. Forand has changed his bill so that surgical services need not be done by a Board Certified Surgeon or a Fellow of the American College of Surgeons. This at least provides some choice of physicians by the patient. But by administrative edict this could be easily restored and again limit the patient's choice of physician.

Once a partial system of socialized medicine

is established it will be much simpler to extend it to cover everyone. Presently Great Britain and Denmark are working out a reciprocal agreement that will allow a person changing residency from one country to another to bring with him full credit for social security payments he made in the country he left. Must we look forward to a world wide socialization of Medicine?

The people for socialization tell us that Social Security is an insurance plan paid for by the employer and the employee. But the Supreme Court on May 24, 1937 stated that the Social Security benefits are not an earned right but a gratuity. Social Security is federal relief distributed through an actuarily unsound system, with deficits made up from general taxes.

Some of my fellow physicians believe that we should be covered under Social Security. But can we as physicians accept Social Security and at the same time be against Socialized Medicine? If a doctor is any kind of businessman at all his income will make him ineligible to accept Social Security until he is about seventy-two years old. Just how illogical can one become in his thinking?

Admiral Rickover stated that the "greatest danger to our nation," is a corps of administrators who are determined to "turn professional man into technicians and obedient 'Yes' men." This applies to all science when government bureaucrats attempt to control it.

We are presently in a Credit Card economy as described by the director of the Bureau of the Budget, Maurice H. Stans. The government is two hundred and ninety billions in debt and is not paying off the debt but is constantly raising the debt limit. Most of us wouldn't have any credit left if we operated like the government.

Present tax supported Federal Aid programs receive four dollars in taxes and return three dollars to us after the government handling fee is taken out. Then there are strings on the way the money may be used, regardless of how the funds are used, for hospitals, schools, crippled children's programs or medical benefits for Social Security recipients.

The Health Education and Welfare Department reports it will take one billion a year to finance the aged health needs through Social Security. When it is considered that the number of persons eligible for social security benefits will increase steadily in the years ahead, it is apparent that the cost will rise accordingly, year after year. The expense will be staggeringly high, and could jeopardize the retirement security of millions who depend on Social Security for their basic retirement needs.

The man living on a credit card must one day find cash and it is no different with the government. When that day arrives, it may be too late to avoid the crash!

The gradual expansion of government must be controlled. Today one of every six employed adults receives his chief remuneration from a government. At the present growth rate, five years hence, one in five of all wage earners will be employed by government. What do we do when we run out of taxpayers?

One of the arguments for the Forand bill is the high cost of Medical Care. Senator Morse of Oregon states that "We've got to regulate Doctor's Fees!" In the last twenty years Doctor's Fees have gone up eighty-four percent, but haircuts have gone up two hundred percent, movie admissions one hundred and twenty percent, baby shoes one hundred and seventy-one percent. An automobile that cost one thousand dollars in 1938 now costs three

thousand, five hundred dollars. But are these costs any reason to socialize the barbers, the movies, the automobile industries? Physicians in 1929 got one-third of the Medical Dollar, they now receive only one-fourth of the Medical Dollar. Does this look like the doctor is taking unfair advantage of the public in his fees? Most doctors pay from one-fourth to one-third of their gross income in office expenses. And these expenses for nurses, secretaries and supplies have also gone up in the last twenty years. And then there is Uncle Sam for his percentage.

New York's Governor Rockefeller has proposed a plan of compulsory Major Medical Insurance to be paid for by the employer and employee. This would supplement basic medical coverage, but would not do anything for those not covered by basic medical coverage. The insurance would be written by private carriers, with a state fund to underwrite any person or group who for some reason couldn't get private coverage. This might be a good plan if it could be under private control but I can see only the inevitable government control, with its constantly increasing cost, numbers of employees and bureaucratic red tape.

You perhaps think we won't have federal control of socialized medicine but the Supreme Court declares that the National Government may control that which it subsidizes. So certainly it will control socialized medicine under the Forand bill if it is enacted.

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THE LONG AND SHORT OF IT

From Your Editor's Travels and Reading

THE PERIPATETIC SOCIETY

The twenty-fourth meeting of the Peripatetic Society was held in Philadelphia, at the Hospital of the University of Pennsylvania on February 5th and 6th. Aside from the scientific program, mention should be made of the intellectual and physical resurgence of the University of Pennsylvania Medical School and Hospital during the last twenty-five years, and especially during the past ten or fifteen years under the able leadership of Dr. Ravidin, Dr. Francis Wood, Dr. Eugene Pendergrass and others. From being a somewhat parochial but very pleasant environment in which an excellent type of clinical medicine was taught and practiced, it has become a veritable beehive of scientific activity in which latest developments in the medical science are instantly coupled with the high levels of clinical practice for which the Philadelphia medical community has been noted for more than a century.

This change, as will be seen subsequently, was very well reflected in the program presented by the young men of the Medical School to the members of Peripatetic Society. These youngsters came from the Departments of Medicine, Biochemistry, Physiology, Radiology, Anatomy, the Veterinary Medical School, etc. In almost every instance their talks concerned fundamental matters which had to do with cellular physiology, chemistry, etc. In one instance the discussion became so highly philosophical, if not metaphysical, that the question

was raised, and seriously discussed, as to whether a certain cell under specified conditions, wanted oxygen, cared whether or not it got it, or just didn't give a damn one way or the other. Many was the time during this meeting that your Editor, and from the looks on their faces, other senior members of the Society were somewhat at sea, because the presentations had gotten beyond their level of technical competence. Why? Because we were witnessing the use of the latest electronic, chemical, physiological, and other techniques for the purpose of unravelling physical, chemical, and biological problems at the cellular level.

The first paper, entitled "Intracardiac Phonocardiography," was presented by Dr. David Lewis. It had to do with studying the physics of heart sounds by utilizing a cardiac catheter in the point of which, a small very sensitive microphone had been built-in. (An anti-submarine research group of the Navy had been helpful in developing this tool.) Dr. Lewis had been studying the actual location of cardiac murmurs up stream, down stream, and at the location of the lesion which produced the murmurs. It was found that generally the murmurs could be sharply localized. However the point of localization in the heart or arteries frequently did not correspond to the proximal area of the anterior chest wall.

While this technique has been of real diagnostic value in determining what the cardiac lesion was in a few patients, as Dr. Lewis said feelingly, "the stethescope is still a very useful instrument."

The second paper on "Lipoprotein Synthesis In Experimental Nephrosis" given by Dr. Julian Marsh, dealt with findings in nephrotic rats. It appeared that in these animals there was an increased net synthesis of plasma proteins of sixty-five to eighty percent while the lipoprotein synthesis was also increased. The cholesterol was increased by two hundred to three hundred percent. Apparently it can't get out in the urine in the nephrotic animals so it piles up the blood and tissues.

The third presentation entitled "Chromosome Studies In Normal and Leukemic Human Leukocytes" by Peter C. Nowell was very interesting, but still needed a lot of confirmation, because the finding of small chromosomes in two patients suffering from chronic leukemia was reported. Other people who have tried to demonstrate abnormal chromosomes in leukemia have failed.

The next paper by Dr. Rody P. Cox on "Alkaline Phosphatases in Mammalian Cells in Tissue Culture" left me gasping because of the technology involved. I believe I am correct in saying that Dr. Cox demonstrated enzyme differences in various pure strain cells in tissue culture, thus providing another mechanism for identifying cells genetically.

In the fifth paper by Dr. James W. Lash on the "Biochemical Aspects of Experimental Production of Cartilage In Tissue Culture." It was demonstrated that cortisone inhibits the formation of cartilage *in vitro*, at times cutting down its formation to zero. Growth hormone on the contrary produces an acceleration of the production of cartilage formation up to two hundred percent over normal.

The sixth paper by Dr. Andrew M. Nemeth had to do with "The Effect of Birth on the Development of Specific Enzyme Systems in Mammalian Liver." Apparently the liver of the mammal, just before birth, contains no glycogen per se. However very shortly after birth glycogen begins to be produced. Apparently this is controlled by an enzyme. Data was presented to show that the enzyme may

be in a pre-enzyme state in the foetus, becoming activated at birth.

The last paper of the morning session presented by Dr. H. E. Holling and R. S. Brodey had to do with "Pulmonary Osteoarthropathy" in dogs. Apparently the disease in dogs (most commonly occurring when the dog has a cancer of the lung) is produced by a striking increase in the vacularity of the connective tissue of the legs which is accompanied by an over-growth of the connective tissue. It involves the whole limb. There are no changes in the toes.

After lunch Dr. Albert J. Stunkard gave the annual Fuller Albright Lecture. His subject was "Some Observations on the Experience of Hunger." He began by discussing the "Night-Eating Syndrome" which is characterized by morning anorexia and even vomiting, no desire for breakfast and lunch, (in fact an aversion to these two meals), a pick-up in the desire to eat which comes in the late afternoon or early evening, then uncontrolled eating until late in the evening or early morning, then anxiety, insomnia, and more eating. There is no symbolic form or pattern in the eating, but the fact remains that these obese individuals are pretty disturbed people, and the "Night-Eating Syndrome" has a very bad prognosis.

Following this lecture Dr. Joseph Pagano discussed "Experimental Infection with Attenuated Poliomyelitis Virus in Full Term and Premature Infants." The gist of his presentation was the premature infants and normal infants under forty-five days of age do not immunize easily with the attenuated poliomyelitis virus. An interesting thing was noted. These infants may excrete the virus after the prophylactic dose has been given and not have any antibody response, and it is possible for a re-infection to occur in premature infants.

To be perfectly honest the last three papers of the afternoon were technically beyond the grasp of your Editor and for that reason he will not attempt to report them.

Mention must be made of the magnificent dinner provided us the evening of the fifth in the old Philadelphia Club. The food was delectable and a Béarnaise sauce and the burgundy were the best your Editor has ever tasted. Dinner at the Philadelphia Club is always a gastronomic treat.

The Fifty-Sixth Annual Congress on Medical Education and Licensure

INTRODUCTION-On the morning of February 6th, your Editor flew from Philadelphia to Chicago to attend the Fifty-Sixth Annual Congress on Medical Education and Licensure sponsored by the American Medical Association, the Advisory Board for Medical Specialties, and the Federation of State Medical Boards of the United States which was being held at the Palmer House. This particular Congress had a rather intriguing looking program. Sunday morning was to be devoted to the subject of "The Role of Patient Care in Basic Medical Education," Sunday afternoon to "The Role of Patient Care on Education Beyond Medical School," Monday morning to "Medicine as a University Study," and Monday afternoon to "Looking Forward Towards Tomorrow's Medical Student." On Tuesday morning the problem of International Medical Education was discussed. The meeting was attended primarily by deans, medical administrators, and a fairly sizable number of directors of education from hospitals in this country. Interestingly enough, as always seems to be the case in meetings such as this one-very few active teachers of medicine were in evidence, unless they were speakers on the program. This may be the reason why so many meetings devoted to Medical Education (with a big M and a Big E) miss out so badly.

Right here, I would like to speak out on a current phenomenon, namely that those who do relative little or no teaching, either to undergraduates or graduates, often are most vocal on medical education. I am referring to the deans and administrators. As I pointed out in discussing the Second World Conference on Medical Education (1), the relative narrowness and sterility of thought in respect to new educational (not pedagogical) concepts, which mark so many of these confer-

ences on medical education may stem from the fact that the speakers are inactive in teaching. Also, it may be that those of our deans and administrators who are non-medical, lack the broad comprehension which is needed to understand the total sweep of medical education in its undergraduate, graduate, and postgraduate phases.

THE ROLE OF PATIENT CARE IN BASIC MEDICAL EDUCATION—The discussion in the symposium on "The Role of the Patient in Basic Medical Education" was opened by Dr. Leland S. Mc Cittrick. He briefly considered whether the training of a house officer should be of the nature of a preceptorship, or an apprenticeship. He outlined the problem which faced the educator in graduate training programs in achieving a proper balance between providing adequate medical service for patients and an educational program for the house officer.

Dr. Arthur Richardson, Professor of Pharmacology, and Dean of Emory University School of Medicine spoke next on "Medical Service as a Medical School Function." He pointed out that there is a considerable dichotomy of philosophy and purpose in the undergraduate curriculum, in what is trying to be achieved in the basic science courses and in the ward clerkship. Medical schools whose functions were and primarily should be educational, got into problems of medical service, when their students left the hard boards of the lecture halls and entered the wards. This resulted in the medical school, which initially was concerned with education and research, paying considerable attention to the quantity and quality of medical service provided by the ward clerks. In Dean Richardson's opinion, too much attention is currently being paid by medical schools to medical service and research. More should be paid to education. He drew attention to the fact that in charity hospitals, as a rule, the medical schools had to assume responsibilities for the care of far more patients than were needed for teaching. However, this surplus of patients was frequently

needed for the training of para-medical personnel.

The next paper, given by Dr. Edmund Pellegrino of the University of Kentucky School of Medicine, dealt with the "Care of the Patient in the Medical School Setting." He pointed out a truism which is sometimes forgotten, namely that the quality of patient care provided in a teaching service bears a very close relationship to the quality of teaching in the wards of that service. Furthermore, the level of care being given, and which is noted by the impressionable student, is naturally what he adopts as his own standard. speaker also brought out that teachers were often too impersonal when dealing with service patients. He indicated that the presence of students on a ward and bedside teaching increase the problems of medical care and stresses undergone by patients. In his opinion, the best quality of care existed in those environments in which both teaching and research was being done. He stated that patients often go to teaching hospitals because they feel that the level of technical care will be better in such a hospital. The point was stressed however, that one must avoid having two standards of medical care, one for private patients and the other for individuals on the ward service. He also felt that it would be wise for the student to gain experience in community medicine in addition to his ward clerkship. Finally, he warned that something must be done to stem the deterioration in the ethical values held by doctors and medical students, because, as he put it, today, when the medical profession in this country is at the highest point of technical perfection in its history, it has declined to a relative low ebb socially.

Dr. R. C. Dickson of the Dalhousie University Faculty of Medicine ventilated the subject, "The Patient, Physician-Teacher, and the Student." In essence he outlined the medical curriculum year by year as it exists in Dalhousie University, together with comment on the philosophy which governs the curriculum. One of the outstanding features of the curriculum he discussed, is the use of, shall one say,

apprentices (students), indentured to experienced older physicians who are assisted in their instruction of the student by enthusiastic juniors. The way the time is arranged is such that it does not force the student, and permits of ample time for reading and developing good reading habits, for the formation and use of discussion groups, and for the student to get over his awkwardness. As he is not overburdened with patient-service, the student has time to polish up his histories, check his physical examinations carefully, and has plenty of time for the synthesis of all facts relating to the patient's illness. It is not until his last year that the student has his ward clerkship, and again he is apprenticed to a visiting physician who acts as his teaching tutor. At Dalhousie the bulk of the teaching in the clinical years is done by the voluntary faculty members.

Next, Miss Helen Hofer Gee took up the subject of "Learning the Physician-Patient Relationship Viewed in Retrospect by the 1950 Class". A questionnaire which had a good response from the Class of 1950 gave the following data:

I. The respondents were asked where they thought their undergraduate education had been deficient. Thirty percent replied in the area of application of Basic Sciences, twenty percent reported deficiencies in their clinical training, forty-two percent stated there had been deficiencies relative to practical instruction in physician-patient relations, and for eight percent everything was fine in medical school. The second question had to do with whether the graduate felt that they had a need for a better understanding of doctor-patient relations when they went into practice. Fifty percent of the general practitioners, forty percent of the specialists, thirty percent of parttime specialists, and fifteen percent of clinical teachers answered "yes." The group was also asked how they rated the opportunities for learning about physician-patient relationships. Less than fifty percent rated medical school as a good place, two-thirds rated the internship, and eighty-three percent rated the residency as providing the necessary opportunities. Learning by doing, was favored over learning by observation, and the majority questioned were firm in their beliefs that an understanding of the facets of the doctor-patient relationship can only be obtained by close association with patients.

The next speaker, Dr. Guy Hayes discussed how "A Patient Looks at the Medical School Hospital," a subject to which not enough thought has been given. He stated that each patient on entering a hospital was unique in his reaction to his new environment. Fear, he believes, is a constant feeling in almost everyone who goes to hospital. Because of this, from the very beginning all concerned with patient care must show that they possess the milk of human kindness. He felt absolutely convinced that patients receive better care in teaching hospitals, because the very presence of teaching keeps everyone on their toes. He raised the question as to whether there is room for improvement of the environment in teaching hospitals, and came to conclusion that there is. For one thing, the tenor of ward rounds might well be improved to make them less disturbing to the patients. Too often patients are embarrassed by what may be said or done, they get bits of information which they interpret wrongly, and the words "degenerative," "coronary," etc. as used, may be misinterpreted and produce severe anxiety. Myocardial infarction has been noted to occur immediately after ward rounds. The speaker implored that ward rounds be conducted so as to have a salutary effect on patients, by reducing tensions and worry. He felt that this can be done if there is better teamwork between the house staff and attendings. He felt that the attendings could be briefed on many factors relating to the patients, before the actual ward-walk begins. Discussion of social histories by and large should be held to a minimum before the patient or other patients. The pros and cons of various laboratory or clinical procedures should not be discussed. A member of the house staff should return to the patient's bedside as soon as possible after a patient has been seen, in order that what has been said is translated, so that the patient has a proper understanding of what has gone on. Furthermore, he pointed out that a proper balance must be struck between the teaching and service aspects of a hospital. Hospital routines should be studied, as they may be very distressing to some patients. Too many examinations by too many people may be very upsetting. The old saw about "Too many cooks spoil the broth," is often true. Blood letting by inexperienced leeches may be very disturbing. A careful consideration should be given to the question of the necessity for every procedure which is done. Tests are costly, and anything done to a patient may scare him, hurt him, cause worry, or all three. Dr. Hayes thinks it would be a good thing if every doctor had all the procedures which he orders, done on himself. He feels that the flagrant use of tests is highly undesirable, and that the physician of today does not learn to have a critical point of view, because so often, broadsides of tests are fired at a patient, without thought being given as to what the specific target is. He closed by saying that the scientist must be a humanist and a humanitarian if he is going to succeed.

The final paper of the morning session presented by Leo N. Simmons, Ph.D., Executive Officer, Institute of Research and Service in Nursing Education, Teachers College, Columbia University was provocative and challenging in its content. Dr. Simmons first considered a number of current assumptions which he thought he could make relative to what patients' think. The first is that modern medical and nursing skills can make, and have made, undreamed of contributions to the preservation of our health. People go to hospitals today to get well. They expect to. The second is that modern medical personnel are not utilizing their potentialities fully, because of faulty administrative organization, methods, and practices. The third is, that patients are less and less satisfied with what they get in the way of medical care, and are worried because they believe things should be better. They are puzzled about motivation in respect to the hospital,

research, education, costs, and service. (This is especially true on the part of major labor union officials today. Ed.) The fourth thing is that for a number of reasons, some very ill defined, but having to do with the inward drives of patients, and the environments in which medical care is given, scientific medicine has to cope with serious subterfuges on the part of patients to avoid receiving all that modern medicine can offer them. At times patients are downright recalcitrant. He then went on to point up a number of factors which are bringing about changes in the established patterns of medical care. First is the increasing physical and social mobility of our population. Secondly, patients are becoming much more sophisticated, and the omnipotency of the profession as a whole, and the doctor as an individual is tending to disappear. Thirdly, the increasing commercialization of, and the outward evidences of the prosperity of the profession has had a deleterious, effect on the doctor-patient relationship. Patients think more and more that doctors must be sharp business men, and as a result the profession is losing the halo which it has had in our country during the past century. Fourthly, there has been a marked change in the age composition and disease prevalence of our population. Major killing communicable diseases are under control, while illness in older people still presents a problem in medical care, because for management, it requires the control of the patient. Fifthly, medical care is being definitely affected by the materialistic attitude of the American people towards life, and the "me-to" philosophy that permeates our national structure. Then too, one of the extraordinary developments of recent years is the tendency to organization. We are too organized today. We have gotten to the stage where we organized to cope with other organized groups. Dr. Simmons then pointed out that one of the areas in which hospitals and medical personnel fall down badly is in their care of the dving person. Too little thought is given to the problems of the individual who is in death's shadow and practically none to those of the relatives and friends of the dying patient. Finally, Dr. Simmons pointed up, the rapid growth of prepayment plans both non-governmental and governmental, which provide varying amounts of medical care. The goal of these plans is to improved patient care. For that reason the patient (the consumer) must be in on the planning and decision making about how he is going to be taken care of. Dr. Simmons' paper was met by loud and prolonged applause. There could be no doubting that the audience was saying "Amen" to what he had just told them.

THE ROLE OF PATIENT CARE IN EDUCATION BEYOND MEDICAL SCHOOL—This part of the program was opened by Dr. Samuel Martin of the University of Florida Medical School. He discussed "Clinical Education as a Continuum." He pointed out that in 1892, Sir William Osler, in a talk given to the medical students of the University of Minnesota, stated that the good doctor looks for and formulates the problems of disease, then he develops a hypothesis or theory about the disease, which he tests: then he re-orients himself on the basis of the results of his testing. It is the job of educators to develop built-in habits of doing this. The stimulus should be the patient and his illness. Dr. Martin stated that it was not necessary that all patients have "interesting" diseases because the student or physician can profit from the study of any sick person. He discussed the possibility of telescoping the intern year back into the medical school curriculum. He thought that there should be training in practice objectives, and he stressed the point that the educational program must represent team work between the doctor, the student, and the patient.

The next paper presented by Dr. William Holden of Western Reserve University School of Medicine on "Developing the Young Physician's Responsibility and Judgment in Patient Care," reflected the author's surgical training. To develop most easily the intellect of interns and residents, an educational environment which will provide increasing responsibility for

the care of sick people is necessary, according to Dr. Holden. Also, the motivation of the intern or resident must be correct, and the motivation must be kept at a high level throughout his training period. As far as general surgeons are concerned, they should pass through all fields of surgery in the course of their training. The author thought that in certain respects training should be differentiated from education, the former concerning itself with the development of ability, i.e., technical skills. To make training top-flight, an environment must be provided by the members of the teaching staff which is optimal for the development of a sense of responsibility and of clinical judgment. In such an environment, the spirit of inquiry should be easy to maintain. Also, it is extremely important that the residents have time for thought and the preparation of their work. A program cannot be left to chance, but must be organized, and have someone on the staff who will spark and guide it. In such a program all must participate, the resident must teach his junior, who in turn must spend much time in the instruction of the intern, who in his turn is closest to and hence must be the mentor of the student.

The third paper delivered by Dr. James Bordley, III, Director of the Mary Imogene Bassett Hospital in Cooperstown, New York, was without question, the most provocative and thought-inspiring in the three day program. Dr. Bordley put into well expressed words the thoughts of most thinking senior physicians and surgeons relative to certain problems which today are increasingly affecting patient care. It is to be hoped that all readers of MEDICAL TIMES will go through Dr. Bordley's paper on "The Effect of House Staff Training Programs on Patient Care" when it appears in the Journal of the American Medical Association. Briefly, he states that as the personalities of house officers and patients vary, and as patients have very little background in rating the ability of doctors, it sometimes astounds chiefs of service, to find that interns, whom they consider to be of doubtful ability, are praised very highly by patients. It is a problem therefore to decide what weight should be given to patients' estimates of their doctors. There is, Dr. Bordley pointed out, a certain incompatibility between patient care and house staff training programs. At times patients are not enthusiastic about being fitted into the house staff training programs. As the patient is generally paying for his care, he must know what he is paying for and this requires explanation. A knowledge of the patient's objections is valuable in making these explanations. Here are some of them: Patients in a hospital which has a complete house staff training program, or is a teaching hospital, object to the duplication of questioning and examining. It must be explained to them that such duplications are inevitable and often are of value because data is turned up by one doctor which had not been noted by the others. Some patients feel that ward rounds are upsetting. This reaction can be minimized by conducting rounds carefully, by watching what is said, and by reassuring the patient by action and word of mouth. Other patients complain of the impersonal attitude of the house staff. It is up to whoever is in charge to do everything he can to lessen this. Of course as interest is often a part of personality, this may be difficult to cope with. One comment which may seem rather startling is that modern physicians place too much accent on longevity, and that they are more interested in the quantity of life they give patients, than they are in the quality of that life. There are times as the author says when it is necessary "to make the house staff realize that they are not shirking their responsibilities if some of the time and energy which they now feel compelled to spend in the cause of fruitless longevity, were to be devoted to the promotion of factors which make it possible for their doomed patients to live in peace and comfort, and for their surviving patients to live more abundantly." At times patients also complain that too much responsibility is shared with the house staff. Often the patients mix up authority with responsibility, and when they do, the conflict must always be resolved in favor of the patient. Responsibility must be shared because, only by doing so can maturity of thought and action be developed in the house staff. At times patients underrate house staff and refuse to do what they are told. This can generally be coped with by a bit of talking by a senior physician about the importance of the house staff in modern medical care. The house staff member must be built up. Overrating the house staff may also constitute a problem with certain patients who get attached to their interns. This should be watched for carefully, especially in community hospitals, because it may lead to something definitely undesirable, namely, the undermining of the position of the family physician. As Dr. Bordley puts it, "the sheer size of the medical team resulting from the presence of the house staff is baffling to some patients." They may feel that "too many cooks will spoil the broth." This can be prevented by having a booklet given to each patient which among other things describes the medical staff and contains a story of the duties of the house staff in relation to newly admitted patients. Now on the other side of the coin, the author has enumerated the contributions made by the house staff to the total care of the patient. First the integrated team approach produces a thoroughness which cuts down the chance that something will be missed. Secondly, the patient receives the benefit of highly technical skills from the house officer. Certainly, most will agree that the house staff member is more adept at venapuncture or lumbar puncture than the senior attending. Thirdly, when a hospital has a house staff, a physician is always quickly available in times of emergency. Fourthly, the presence of a house staff keeps the attendings on their toes scientifically speaking, and last but not least, each year members of "the house staff . . . transmit to the hospital community fresh attitudes and factual knowledge which they have absorbed in the scientific environment of the university from which they had just come." In concluding his discussion of the house staff and its effect on patient care, Dr. Bordley draws attention to the fact that the overall training of the house staff and the care of the patients has suffered, because in this day and age when more than fifty percent of American-born house staff members are married, the problem of time on and time off, i.e., "the fixed schedule" plays too great a role in the thinking of the medical student, intern, and resident. He feels that it may well undermine the sense of responsibility which a physician should feel towards his patients, and produce a "mass movement of young doctors towards careers which offer a 40 hour week."

The fourth paper of the afternoon was on the subject of "The Ambulant Patient's Contribution to the Education of Interns and Residents," and was presented by Dr. William D. Loeser of the Youngstown (Ohio) Hospital Association. His talk was based on the role of outpatient departmental work for the house staff in non-teaching hospitals. As he pointed out, one has an outpatient department to meet the needs of indigent and medically indigent people in the community, and to provide adequate after care and follow-ups for such patients. Participation in such a program provides valuable training for the house officer because it provides an opportunity for follow-up. and even more important, a chance for the house officer to get to know his patient as a person.

The final presentation of the session was made by Dr. George Robertson of Thayer Hospital in Waterville, Maine on the subject of "Continuation Education in Hospitals without House Officers." As is only too well known. physicians are liable to lose their habits of study after they finish their graduate training because (1) it takes time to build a practice, (2) it takes time to build up their families, and (3) they can't afford to go away in their early years in practice. Despite this, everyone recognizes that a continuing educational program is of major importance in every doctor's life, if he is to provide proper medical care for his patients. Dr. Robertson outlined the "do it yourself" program which had been so successful in Thayer Hospital. In essence it consisted of obligatory attendance at weekly, one hour staff meetings, in which various staff members presented the case reports of interesting and instructive, or puzzling patients. This was supplemented in time by a tumor board, and still later by guest doctors to whom patients were presented. One of the unexpected results of the conferences and the discussions which were engendered by them was that the staff became much more cohesive and utilized each others skills to a much greater degree than had been done previously.

Unexplained Heart Failure in the Aged

An analysis is presented of the clinical and post-mortem findings in 50 patients who died at an age of 70 years or more with heart failure for which the clinician could find no adequate explanation. They have been compared with a group of 50 patients, matched for age and sex, in whom prior to death there was no reason to suspect heart disease.

The heart failure can probably be divided aetiologically into three groups—former hypertension, clinically unrecognized coronary disease, and cases in which the heart at necropsy appeared completely normal. The last may possibly be examples of "senile heart failure." Auricular fibrillation, which was common in all aetiological groups and also among the control subjects, did not appear to be related to coronary disease.

G. A. ROSE and R. R. WILSON British Heart Journal (1959), Vol. XXI, No. 4, P. 511.

Auto-Immune Disease

II. Pathology of the Immune Response—
"This discussion of the auto-immune disease represents a purely theoretical study, but I believe it is important that we should have a clear theoretical background if we are to devise means to prevent or treat these conditions. One of the greatest difficulties in their study is our inability to produce analogous conditions in experimental animals. Where experimental models are not available there is perhaps

greater justification for the speculative type of approach that I have used.

What I should specially like to leave with you is a sense of the existence of cellular populations within the body which, like a population of bacteria in a test-tube or rabbits in a continent, are subject to mutation, proliferation, death, and selective survival. The population dynamics of the body cells represents, I believe, the most fertile of all the broad fields of medicine that still await adequate study. Just as I completed writing these lectures, I found a new paper by Szilard (1959) putting into mathematical form a thought that has been becoming more and more insistent in my own mind-that aging is essentially the integration of mutational damage to somatic cells. If this is true, and if I am correct in the interpretation of the pathology of immunity, and if the somatic mutational approach to cancer withstands the challenge of the virologists as I believe it will, then somatic mutation as an aetiological consideration may come to dominate the whole of medicine in so far as it is concerned with the waning half of human

The approach is an unpopular one-mutations are irreversible and there is no presently conceivable way in which the process can be prevented. Curative approaches, too, must be indirect and largely empirical. Medical science, however, is growing up, and I think it is time that we stopped fostering the naive expectation of the public that genetic anomalies, including feeblemindedness, cancer, the degenerative disabilities of age, and death itself, will all eventually be overcome as surely as we can deal with pneumococcal pneumonia or malaria. There will always be much that we can do as doctors, but we must base our expectations upon facts and leave a belief in miracles to others."

SIR MACFARLANE BURNET, O.M., M.D., F.R.S. Brit. Med. J. (1959), No. 5154, Page 111 725.



The House of Botanicals

S. B. Penick & Company is not a name familiar to most of the medical profession, for the simple reason that the company does not make even one dosage of a pharmaceutical product. But a physician can scarcely write his daily number of prescriptions without having made use of an ingredient which originated from its warehouses and laboratories. By no means the largest of bulk drug producers, S. B. Penick & Company nevertheless provides the widest number of therapeutic agents.

How much of this growth was envisioned by the founder, no one can now say.

Today, S. B. Penick & Company supplies the pharmaceutical manufacturer with fine chemicals, narcotics, a number of antibiotics, botanical drugs from every part of the world, and all the alkaloids, glycosides and extracts derived from plant materials. In addition, the company grows most of the Digitalis used in the United States on its Pennsylvania farm and has plantations for other purposes in Ecuador and Nicaragua, as well as experimental cultivations in many other parts of the world. Even flavors to make medicines palatable originate in the company's laboratories.

The beginning was far less complicated. In May 1914, Sydnor Barksdale Penick, having acquired \$30,000 capital of which he had supplied fifty-one percent by means of loans and savings, began business in Marion, North Carolina. The little company had only one objective: To supply the roots, herbs and barks native to the Blue Ridge Mountains to the ethical and proprietary drug manufacturers of

the United States. The founder was then thirtytwo years old, already had a family of four children to support, and he had achieved this part of his ambition only after an arduous struggle. At the time of his birth on March 26, 1882, he was already an orphan, for his school teacher father had died in one of the periodic epidemics which swept rural areas in those days. His mother, a year later, had married her late husband's brother and she in turn died in childbirth within another year. At the age of two, in a family of school teachers and ministers, both poorly paid professions, he was dependent upon whatever aunt or uncle or cousin could afford to feed an extra mouth. He, himself, had been the seventh child and with a brother just two years older, he moved from place to place in Virginia and North Carolina.

His business career began in Culpeper, Virginia, when he was twelve years old. Up to that time he had been taught in private schools and public schools and informally by family members. That year he was attending the public school and one morning he incurred a violent stomach-ache, resulting in his being excused for the day. By afternoon he had recovered entirely and he took a walk down the main street of the town. There his teacher happened to see him and burst forth angrily the minute she caught sight of him. "Barksdale Penick, you are the biggest little liar I have ever seen." The family legend has it that his honor being impugned, the young man never returned to school.

Instead he went to Lynchburg, Virginia, where Douglas, a brother, senior by fifteen years, was already comfortably established in the drug business with Strother Drug Company, then, as now, one of the leading wholesalers in Virginia. Young Penick's first employment was as the errand boy around a local drug store, where he learned the rudiments of the business. A year or two later, he applied to Strother Drug Company for a position and began work packing orders.

It made no difference to him what he was asked to do, nor did he wait to be asked. Whatever he undertook, he tried to do to perfection and he was soon a young man to watch.

Sometime around the year 1903, Strother Drug Company decided to expand by opening a branch in the southwestern corner of Virginia at Bristol. In a daring move, Strother selected young Penick, possibly not quite twenty-one years old, to be the manager. Their choice was sound, for the young man was willing to work twenty-four hours a day if necessary. Often he slept on an improvised bed in the store itself. He filled orders, sold goods, made friends and still had time for one or two other important events that were to influence his life. Perhaps the most important was that a girl from Lynchburg, Virginia, Margaret Henry Dabney. visited Bristol and although both came from Lynchburg, it was in Bristol that they became engaged and after their marriage settled down to make their life there. Unfortunately, despite everything the young manager could do, the branch was not a success. The competitor whose territory Strother had invaded had a simple and practical method for ousting the intruder. It was to sell at cost. In the summer of 1905, Strother decided to give up the battle and to close the branch. It was a bitter blow to the young family, for by now their first son had been born.

Unwilling to return defeated to Lynchburg, Penick made use of what his observant eyes had taught him in Bristol. He had watched the country people bringing in the roots and herbs from the mountains to trade in at local stores, and he knew that the eventual destination of these botanicals was New York, where the merchants and millers were located. By correspondence he secured a position with J. L. Hopkins & Company and in the fall of 1905 he set out for New York on his new career. Never before had he been farther north than Alexandria, Virginia, and he had no financial resources of any kind. In fact, he did not own an overcoat, and when he arrived at Hopkins' office, teeth chattering and blue, he refused the owner's offer to give him an overcoat, angrily saying that if he needed one he would buy his own. The same independence of spirit and determination frequently caused his wife alarm and discomfort. Accustomed to the chivalrous courtesies of Virginia, he undertook a one-man campaign to correct the manners of the crude New Yorkers. Going home at night on the trolley car across Brooklyn Bridge, to the drab little apartment he had found in Brooklyn, he would not only give his seat to any lady standing but he attempted to enforce a similar etiquette on all and sundry, even to the point of physical coercion.

The same methods and hard work which he had employed at Strother Drug Company insured his progress with his new employers. In a short while he was an officer of the company and was in fact transacting nearly all its business. In spite of his hard work and enthusiasm, irritations and frustration arose. By 1912, he was already planning upon his own business. The hitch was to obtain capital and after one or two disappointments, he successfully organized a syndicate of business men in the little town of Marion, North Carolina. One of the handicaps which had confronted Penick in his efforts to organize a business was his insistence upon owning not less than fifty-one percent of the outstanding stock. He was determined to be his own boss to the extent that he had refused to proceed with an earlier group in Asheville, North Carolina, on a fifty-fifty basis. To reassure his new stockholders in Marion, he signed a remarkable contract. The president's starting salary was established at \$2,500 per year and by contract

he agreed never to pay himself more than \$5,000 annually. In retrospect, it was not so inhibiting a document as it seemed on the surface. If the business did not succeed, the restriction would make little difference. And if it succeeded, the stockholders would cheerfully abrogate it. As a matter of history, the agreement was canceled just two years after the founding of the Company.

The path to success was not easy. In May 1914, the world was at peace and no one paid much attention to the rumblings of discontent in Europe. It was unthinkable that in the civilized twentieth century any major war could break out. When World War I did begin on August 1st, the businessmen of our country had little conception of what might follow. Obviously, it was prudent to buy anything of European origin and most of the new company's customers invested their surplus funds in drugs of European origin. Penick had only domestic goods to sell and no one wanted them, feeling that they could be bought at any time. There were moments of real desperation when it seemed the company so newly started would flounder. As a last resort, Penick began to buy imported merchandise himself. Profits were easy in that area, even with the disadvantage of dealing in a market hundreds of miles distant. By the end of 1915, business in foreign materials was dominant and Mr. Penick made the decision to move his headquarters to New York City, the center of activity. By the end of World War I, S. B. Penick and Company was firmly established as one of the leading firms in its narrow field of botanical drugs. There were at that time some thirteen companies engaged in this particular activity. Already the inroads of modern research were beginning to be felt and the botanicals, most of which were used empirically, were gradually becoming victims. This trend has continued almost to the present time.

Penick recognized this from the beginning. The solution was first to become the strongest firm in the botanical industry. By 1929 or even earlier, the company could use the advertising slogan "The World's Largest

Botanical Drug House." Over the years, the progress was steady. Most botanical companies had been largely trading organizations. Penick was the first to add scientific personnel, largely of a control or analytical function but gradually expanding into research. The company increasingly emphasized the extraction of botanicals and the manufacture of the active principles. A number of well-known materials were first manufactured, at least in the United States, by Penick.

As the years went along, every emphasis was laid on adding new products and developing the company's line. This was accomplished both by internal growth and whenever possible, by outside acquisition.

The principal acquisition was made in 1947, when New York Quinine and Chemical Works was purchased. NYQ had been established in 1886 and was one of the acknowledged leaders in the medicinal-chemical field. Subsequently, in 1952 an antibiotic plant was established, virtually the only one in the United States today, which confines itself to make bulk antibiotics for the use of pharmaceutical manufacturers.

From the therapeutic standpoint, the replacement of empirical botanicals by complicated chemicals is undoubtedly a step forward butfascinating as the chemicals may be to the expert-they can hardly equal the plant materials in colorful stories. Back in Prohibition days, an important consumer miscalculated his need for Viburnum Bark and suddenly was confronted with a potentially disastrous shortage, chiefly because the scarcity arose in the winter months. Normally barks are peeled in the spring when the sap is rising and the collector can separate them from the tree with a single knife stroke. In the winter, the bark must be cut every inch of the way, requiring far greater time. And in the mountains of North Carolina, winter is less pleasant than the spring. S. B. Penick & Company was skeptical that it could fill the order, but instructions went out to the North Carolina collection depot to do its best. To everyone's surprise, the Viburnum was successfully produced, but-oddly-by one family, whom we might call the "Wilsons." Every one of thousands of pounds came from them—and again oddly—deliveries were always made early Saturday morning by the "Wilson's" own truck. A little inquiry solved the mystery. The "Wilson's" were the largest local distillers of illicit corn whiskey. They came down from the mountain stills on Friday nights to meet the community's weekend demand and, to cover the jugs of mountain dew from the gaze of inquisitive Federal Agents, they used the sorely-needed Viburnum Barks, — a happy arrangement which suited nearly everybody.

The decline in usage of botanicals applies to the wide general line, but research is turning again to vegetable materials with no less than half a dozen screening programs currently sponsored by pharmaceutical manufacturers and others. Occasionally there is a spectacular break-through, as in the case of Rauwolfia and Reserpine. Others will follow. S. B. Penick & Company hopes and expects to participate in these and to contribute knowledge and experience to the discovery and production of new therapeutic agents from botanical sources. But meanwhile the company devotes close attention to organic chemical synthesis and to its bulk antibiotics. There is indeed some similarity between the growth of botanicals and the production of antibiotics, both involving nature and successful control of natural processes.

Tyrothricin, Bacitracin, Neomycin, Gramicidin and Candicidin are the antibiotics which Penick manufactures in various forms. In addition, the company makes individual antibiotics for certain customers and conducts microbiological ferments of steroid substances.

The speed with which Schering was able to produce its "Meti" drugs when they first came into prominence was an industry puzzle until Schering revealed that Penick facilities had been used for the essential fermentation step.

On May 24, 1953, Sydnor Barksdale Penick died at the age of 71. His family prepared a brief obituary, giving the essential facts of his career. He had been proud of being president of the American Drug Manufacturers' Association, and had served on its Executive Committee, longer consecutively than anyone else. He had been a part of the councils of the pharmaceutical industry, an unusual position for a man who made no pharmaceuticals. His judgment was respected and the business which he had established was known throughout the world.

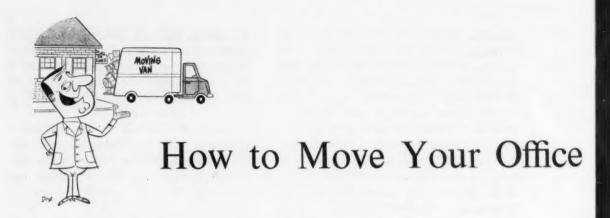
When the *New York Times* received the obituary notice, the reporter called his family and asked for further information. The reporter's request was accompanied by the comment, "To me Mr. Penick's career was one of the real American stories."



MEDIQUIZ . . .

Working alone or with your colleagues you'll find this is no snap.

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hen a physician moves his office from one physical location to another he may expose his practice to certain dangers and sustain certain losses not readily anticipated or easily guarded against. Physicians who've never before been obliged to move to a new location may discount the problems involved. In transferring an office from one location to another, there's something more involved than physically shifting professional equipment, furnishings, supplies and records to the new office.

Any physician making a professional move should work out a plan well in advance of the contemplated moving date. He should carefully calculate every step and every action deemed necessary to reduce the risks and losses to a bare minimum. Most, although not all, of the points to be discussed will have significance for physicians about to move. Some of these points will be modified by the type of office from which a physician is moving, whether a combination office-residence, whollyoccupied office premises not shared with others or an office in an office building. Thus, a physician moving from an office-residence location or a building in which he was the sole tenant may have special problems not shared by a physician abandoning a suite of office in an office building.

THE EXPIRING LEASE. The lease about to end on the old office may need to be critically reread. This agreement may reveal certain

obligations on the part of a physician which must be fulfilled on or before vacating the premises. Failing to do so may prove to be an expensive oversight. The cost of voluntary compliance while still in possession of the premises may be less than if done after departure. If the building has been altered materially to suit the physician's professional needs he may have obligated himself to restore the premises to their original condition. If so, this is as binding on him as other lease conditions. He may have damaged the premises to such an extent this cannot be dismissed as normal wear and tear.

Month-to-Month Occupancy. By arrangement with his landlord, a physician may continue on at his old office for a period of time after the lease ends, pending being able to get possession of his new office. In doing so, a physician may be wise to learn the law in his state in respect to month-to-month tenancy. He may be required to give a 30-day notice prior to moving. After his departure, a landlord disgruntled at loss of a good tenant may demand an additional month's rent or more in lieu of a 30-day notice.

BE CAREFUL WHAT IS MOVED. A physician may invite trouble if he is too zealous in what he moves out of his old offices. Any improvements which he has made usually must remain with the building and surrounding land — if these improvements are physically attached to the structure or land. These may include such

EFFICIENTLY

HAROLD J. ASHE

items as furnaces, hot water heaters, lighting fixtures, toilet facilities and even fences surrounding parking areas. In the early postwar years a good many physicians returning from the armed forces, and confronted with a shortage of offices, were obliged to lease office space on an "as is" basis. They had to make major improvements at their own expense. If there is any doubt about certain items, and a substantial value is involved, an attorney should be consulted before any removal, not afterward.

LEAVE THE PREMISES LITTER-CLEAN. While not too commonly practiced, it is a wise physician who leaves the old premises reasonably clean and free of litter. This should not be made the problem of the landlord or a new tenant. Aside from being a good will gesture which costs little, it reduces the possibility of a fire originating because of the physician's negligence. Oily rags, paper and other inflammables should be destroyed. All utilities, including water, should be shut off without fail. Gas outlets should be securely capped or plugged. All outside doors should be locked or bolted. Cartons and trash should not be left behind, least of all outside the premises. Such discarded junk may serve as an "attractive nuisance" for children at play, and to their possible injury. Courts take a dim view of attractive nuisances. Aging medicines, including samples, should be destroyed, not be abandoned.

INSURANCE COVERAGE. All insurance car-

riers, or their agents, should be notified prior to the physical move taking place. Insurance companies will issue "removal permits." This should not be neglected. Without such endorsement, fire and other policies on property are void, once the property is removed from the premises described in the policies. Moreover, either a higher or lower rate may prevail at the new location. A typical removal permit provides a removal period not exceeding 15 days "in old location, and while in transit to, and in new location, in that proportion which the value of said property in each location shall bear to the value in all locations, and thereafter shall cover only in the new location."

If new professional equipment, fixtures and furnishings are installed at the new location, original policies may be inadequate. There may be no protection whatsoever if these physical assets are dropped off at the new location before the move is made. Coverage should be provided from the day initial deliveries are made to the new office.

EXPECT MOVING DELAYS. In moving to a newly constructed office or one requiring major alterations, a physician should be prepared for a possible delay in getting possession. The initial target date for moving should be well before expiration of the old lease. This will provide some moving leeway. In short, a physician should not be caught in a squeeze play in which he loses possession of the old premises before the new office is ready for occupancy. It can happen. It can be costly in double moving charges, storage costs and virtual shut-down of an office practice for a period of time. This can be far more serious than the loss of some rent for the remaining period of the expiring lease.

Even if a physician is building his own office structure, he may discover he has little control over job progress. Where half a dozen or more building trades and a like number of their suppliers are involved, there are numerous causes for delays in completing a new building or remodeling an old one.

Loss of Patients. A good many patients may be lost by any move, unless every effort

is made to eliminate the causes. Even a move of a few blocks may result in fewer patients. A physician should do everything possible to make it easy for patients to locate him in his new quarters. Some patients are not going to exert themselves in this pursuit; others may have considerable loyalty to a physician which, however, should not be put to the test.

Anything that disturbs a patient's routine and creates problems for him may be sufficient cause for him to look for another physician -unfair though this may be. If possible, patients should not be obliged to go to the old office first. This may put them closer to another physician's office than to the office of their present physician. At the same time they may be irked by being confronted with a vacant office, especially if, at this point, they get the new address which is nearer the start of their trip than the old office. Such indifference in not posting patients of the move may also be interpreted by some as an indication they are unimportant to the physician and his practice.

Here are a few of the steps which should be taken to reduce the loss of patients:

- 1. Try to keep the same telephone number, if this is possible.
- Notify business and professional neighbors of the new address so they may answer inquiries.

- Advise professional associates and societies of the change.
- 4. Place a removal sign on the door of the old office, giving the new address. (This underscores the importance of leaving the former landlord in a good frame of mind, and not offending a new tenant with excessive litter).
- 5. Before making the move, display the new address on small, dignified signs on waiting room tables and elsewhere where they may be easily seen.
- 6. Personally advise patients of the forth-coming move.
- 7. Insist that office signs at the new location be installed not later than the earliest anticipated moving date.
- 8. At least in smaller communities issue a simple press release to newspapers stating the fact of the move, giving the new address.
- 9. Get new stationery, including statements, reflecting the new address.
- 10. Immediately before removal, and when the moving date is definitely set, mail changeof-address announcements to all patients.

MISCELLANEOUS DETAILS. Give the postman a change-of-address card. Advise all supply houses. Finally, hope that the sign at the old location will direct some patients to the new location—but don't count on it in lieu of more positive actions already noted. That sign may not stay up as long as you hope it will.



STOP AT CORONER'S CORNER . . .

Read the stories doctors write of their unusual experience as coroners and medical examiners. SEE PAGE 38a

GUIDE for our readers

The conventions of the presentation of advertising material on pharmaceuticals are related to certain ethical and practical considerations. This guide should be of help to all our readers in an understanding of the advertising material contained herein. Unless it is stated to the contrary:

> All illustrations of physicians and patients are dramatizations utilizing models and not specific physicians or actual patients. The ethical and other considerations for this are obvious.

Illustrative material such as dummy prescription blanks, hospital charts, calling cards, memos, etc., are presented as dramatizations.

Composite case histories, drawings and/or photomicrographs are often presented to convey typical clinical indications but unless stated to the contrary are constructed as illustrative cases or situations.

Physical limitations of space in journal advertising make the presentation of all relevant data impractical; therefore, it is suggested that for suitable background on dosage indications and contraindications the standard package insert or more extensive background data be consulted.

The acceptance of material for advertising is based upon several criteria; for example, in respect to safety, all new drugs are required to correspond with the accepted Food and Drug application.

It is suggested that any difference of opinion of individual physicians with any advertisements be called to the attention of the editor, with a duplicate copy of the letter to the pharmaceutical house whose advertisement is the subject of the letter.

THE PUBLISHERS

asleep...
drugged

For a night of deep, refreshing sleep and a lively awakening... Noludar 300... one capsule at bedtime promises 6 to 8 hours of undisturbed sleep without risk of habituation, without barbiturate "hangover," toxicity or even minor side effects. Try Noludar 300 for your next patient with a sleep problem. One capsule at bedtime. Chances are he'll tell you

"I slept like a log"

NOLUDAR 300

brand of methyprylon

300-mg capsules



ROCHE LABORATORIES • Division of Hoffmann-La Roche Inc • Nutley 10, New Jersey



INVESTING

FOR THE SUCCESSFUL PHYSICIAN

Prepared especially for Medical Times by C. Norman Stabler, market analyst of the New York Herald Tribune.

THE DOW THEORY

The January break of the stock market followed, by an irregular pattern in February and then another break in March, brought into the limelight the long-standing clash of opinion in trading circles on the reliability of the so-called Dow Theory.

This is a classic theory, developed at the turn of the century by the late Charles H. Dow, of Dow, Jones & Co., and later developed by the late William Peter Hamilton, then editor of "The Wall Street Journal." Then the reins were taken over by the late Robert Rhea.

Its chief proponent now is Richard Russell, a New Yorker, who publishes "Dow Theory Letters." He is convinced the March break gave the stock market a bear signal confirmation that will establish the authenticity of the Dow theory for all time. He dates the start of the former bull market at June 13, 1949. Thus it lasted more than ten years, and was our oldest in history.

Tenets of the theory are not too well known outside of Wall Street. Even in the financial district one hears various interpretations and, as Mr. Russell puts it, "too many talk about the theory when they haven't studied it adequately." He was referring particularly to a letter of Hemphill, Noyes & Co., after the confirmation on March 3, 1960 which stated we had a bear market confirmation in Sep-

tember 1957, and this move lasted only a month.

Then one also hears of individuals who don't care what the theory denotes, for they don't believe in it anyway. One old-timer joked that it couldn't be too important, "because there are few people below 55 years of age who ever heard of it."

"Stock Trend Service," Springfield, Mass., goes so far as to say there are three different interpretations possible under the theory: that no primary bull market signal was recorded in 1958 and 1959; the bull market is still in effect; and a new bear market signal was given March 4.

All technical approaches to stock market trading have one thing in common. They aim to detect trends. To do so their tools are the stocks themselves, their volume of activity and the moves they make.

With data thus obtained technicians then come up with various tables and charts. At no place in their studies is there room for consideration of business developments within the economy. Their conclusions are based exclusively on what the market action itself reveals.

Confirmed chart readers maintain their charts reflect the buying or selling of large aggregations of investment funds, the hopes and fears and the wishes and guesses of the great mass

THE THIRTEEN BEAR MARKETS SINCE 1899

	DECLINE PRIOR TO DOW THEORY BEAR MARKET SIGNAL	DEGLINE AFTER DOW THEORY SIGNAL TO BEAR MARKET LOW
1899-1900	16% in 81/2 mos.	16% in 6 mos.
1902-1903	12% in 81/2 mos.	29% in 4 mos.
1906-1907	10% in 3 mos.	321/2 % in 19 mos.
1909-1910	15% in 51/2 mos.	13% in 3 mos.
1912-1914	10% in 3½ mos.	37% in 111/2 mos.
1916-1917	21% in 9 mos.	231/2 % in 31/2 mos.
1919-1921	16% in 3 mos.	36% in 17 mos.
1922-1923	12% in 8 mos.	4% in 1½ mos.
1929-1932	19% in 1½ mos.	861/2 % in 321/2 mos.
1937-1938	15% in 6 mos.	40% in 7 mos.
1938-1939	16% in 4½ mos.	71/2 % in 8 days
1939-1942	7% in 8 mos.	36% in 25 mos.
1946-1949	10% in 3 mos.	151/2 % in 33 mos.

of investors, and that a horde of psychological factors come into play when buyer and seller get together.

They note recurring patterns, and formations in their charts, and from these they attempt to project the future price course of individual securities and of the stock market as a whole. It is in the interpretation that they frequently reach different conclusions.

The Dow Theory is based on the relationship between the railroad average and the industrial average. There's more to it than that however.

The true technician feels that a bear market is signalled, if both the railroad and industrial average, moving together, after having been in a prolonged uptrend, decline together for some weeks or months, and in their subsequent rally are unable to recover their entire loss and join again in a greater loss. Conversely, a bull market is signalled when both averages break through on the upside.

By the averages, we mean the Dow Jones rail and industrial average. Their daily closing prices are the cue. Prices reached during a day's trading are not considered conclusive. Several theorists also maintain the penetrations must be accompanied by large volume in order to be conclusive.

On March 4, the two broke lower resistance points which, to the classic followers of the theory, meant we had been in a bear market since July and August, 1959. There is always a lag, because when the signal finally comes, it is confirming a trend that had already started but which was, at that time, not recognized as a vital turning point.

Ralph A. Rotnem, head of the research department of Harris, Upham & Co., has drawn up a list of the thirteen bear markets since 1899, showing the decline prior to respective bear market signals, and declines subsequent to the signals. His conclusions, that we had no bear market in 1957 and that the last bull market was therefore more than ten years old, agree with Mr. Russell's thinking. The list is shown above.

In a recent article in "Barron's," Mr. Russell, in discussing the March 3 confirmation, said the break of the rails confirmed the February 16 penetration by industrials through their respective September lows.

He added that according to the classic theory formulated by Charles H. Dow, the two Averages thus gave the signal for a bear market in stocks. This means that the great bull market which began on June 13, 1949, ended on July 8, 1959. The movements since then have been part of a bear market.

"A study of history shows that the primary and secondary swings of the stock market serve



"All my surgical patients get an extra lift with 'Beminal' Forte"

pre- and post-op to improve nutrition ...aid tissue repair



A single capsule provides 250 mg. of vitamin C and massive doses of B factors to meet the need when requirements are high and reserves are low. Prescribe "Beminal" Forte pre- and post-operatively, during convalescence, and for patients on special diets to improve the prognosis and accelerate recovery.

Supplied: No. 817 – Bottles of 100 and 1,000 capsules.

Ayerst Laboratories New York 16, N. Y. . Montreal, Canada

Lifts depression...



as it calms anxiety!

Smooth, balanced action lifts depression as it calms anxiety... rapidly and safely

Balances the mood - no "seesaw" effect of amphetamine-barbiturates and energizers. While amphetamines and energizers may stimulate the patient - they often aggravate anxiety and tension. And although amphetamine-barbiturate combinations may counteract excessive stimulation - they often deepen depression.

In contrast to such "seesaw" effects, Deprol lifts depression as it calms anxiety - both at the same time.

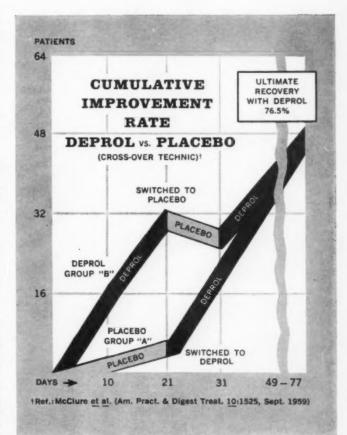
Acts swiftly - the patient often feels better, sleeps better, within two or three days. Unlike the delayed action of most other antidepressant drugs, which may take two to six weeks to bring results, Deprol relieves the patient quickly - often within two or three days.

Acts safely - no danger of liver damage. Deprol does not produce liver damage, hypotension, psychotic reactions or changes in sexual function frequently reported with other antidepressant drugs.

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BIBLIOGRAPHY (11 clinical studies, 764 patients):

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Dosage: Usual starting dose is 1 tablet q.i.d. When necessary, this may be gradually increased up to 3 tablets q.i.d. Composition: 1 mg. 2-diethylaminoethyl benzilate hydrochloride (benactyzine HCl) and 400 mg. meprobamate. Supplied: Bottles of 50 light-pink, scored tablets. Write for literature and samples.





to discount forthcoming periods of expansion and contraction in the economy," Mr. Russell continued. "While no one can predict the duration or extent of a primary movement, it should now be recognized that Dow's Theory has sounded its gravest warning.

"Since the beginning of 1960, we have witnessed the phenomenon of a market which has ignored both the forecasts and the forecasters. To the casual observer it may well seem that the market has "taken leave of its senses." Yet there is nothing new in a stock market which

will not perform as it is 'supposed to.'

"Many of today's investors have never seen the turn of an extended bull market, yet the dynamics of the reversal have remained the same through the years. Following a reaction in the third or speculative (bull market) phase, one or both averages approach but fail to better the preceding highs on the ensuing advance. If on a subsequent decline, both averages then break their reaction lows, the primary trend is considered to have turned from bull to bear. That is now the case."

THE YEAR OF THE CIPHER

Jacques Coe, head of the investment firm bearing his name, is a student and a man of figures.

"Beware," muses Mr. Coe, "for this is the year of the cipher." Years ending with a zero have not been happy ones in the stock market.

"The year 1960 had plenty of strikes against it even before it started," he says. "It begins a new cycle year ending in zero which may sound foolish to many serious-minded people, yet, as Al Smith said 'Let's Look at the Record.'

"1920-serious bear market

"1930-even worse

"1940-very bad

"1950—not so bad (because we were coming out of the 1948-1949 down market but there did occur an exclusive period during the

summer months when there was a temporary collapse from 230 to 195.)"

Mr. Coe might have added 1900 when a bear market ended at mid-year, and 1910 which had a sharp decline.

He believes we've been in a bear market since the beginning of 1959.

"Many of us," he adds, "have been delightfully swindled by the behavior of the Dow-Jones averages which made people believe we were still in the bull market during the summer of 1959 and again in December of 1959.

"Those poor unfortunates who have not had portfolios consistent with the Dow-Jones group certainly knew we were in a bear market a long time ago.

"Examinations of their own portfolios must have disclosed the grim truth that 'the party was over' as far back as the Spring of 1959."

INVESTMENT DATA FOR THE PROFESSIONAL MAN

Sixteen out of every one hundred investors are engaged in professional or semi-professional occupations, judging from a census of shareholders completed last year by the New York Stock Exchange. The exact percentage of physicians, lawyers, clerics and scientists, is not known, but for the purposes of a discussion of their investment problems we will make an arbitrary guess that it is half the number. On that basis the Diversified Growth Stock Fund, Inc., Elizabeth, N. J., made a thorough exam-

ination and investigation.

It found that although professionals numbered only 8 percent of the total number of investors in the country, they are far more concerned with investment problems than are those among the remaining 92 percent.

This conclusion was based on the fact that of the fund's 9,332 shareholders who participated in the study (38 percent of the fund's owners) 24 percent of those who responded were professional persons. The professional group was

'PERAZIL'



long-acting antihistamine

USES: 'Perazil' relieves the symptoms of sneezing, "incessant" itching, inflamed eyes, rhinorrhea, itching eyes, nose and throat, associated with:

Hay Fever • Pollenosis • Pruritus • Urticaria • Vasomotor Rhinitis • Allergic Dermatitis • Drug Sensitivity

ADVANTAGES: 'Perazil' is both prompt and prolonged in effect, providing symptomatic relief lasting 12 to 24 hours from a single dose.

PRECAUTION: When drowsiness does occur it is generally mild and the usual precautions should be observed. No toxic effects related to either the blood-forming organs or the cardiovascular system are produced.

DOSAGE: Adults and children over 8 years, 50 mg. once or twice daily as required. The dose may be increased in severe cases.

Children from 2 to 8 years, 25 mg. (one sugar-coated tablet) once daily.

Infants up to 2 years, $12\frac{1}{2}$ mg. (one quarter of a 50 mg. tablet) crushed and mixed with a spoonful of jam or syrup.

SUPPLIED: Tablets of 25 mg., sugarcoated, bottles of 100 and 1000; 50 mg., scored, bottles of 100 and 1000.

"PERAZIL"® brand Chlorcyclizine Hydrochloride



BURROUGHS WELLCOME & CO. (U. S. A.) INC., Tuckahoe, New York

in one preparation

the answer to your
three most important
requirements in
a douche



For a dependable and effective means of treating non-specific leukorrhea

For adjunctive therapy in Trichomonas Vaginalis vaginitis and other specific infections

For personal cleanliness and the prevention of irritation and inflammation TRICHOTINE is the first major douche to contain sodium lauryl sulfate, a detergent of the highest order of efficiency. TRICHOTINE penetrates and dissolves the viscid film covering the vaginal mucosa; gets down in the rugal folds, carrying medication directly to the mucosa and the invading organisms.

TRICHOTINE is a potent bactericide and fungicide, penetrating the walls







of many micro-organisms. "The douche solution is an effective agent against Trichomonas Vaginalis, Monilia Albicans, anaerobic organisms including a potent strain of streptococci that sometimes cause severe infections, and other non-specific vaginal micro-organisms."

TRICHOTINE actually favors epithelial growth and healing, and the relief it affords from pruritis is quite striking. For personal cleanliness, especially as a post-coital and post-menstrual douche, Trichotine is designed to meet all the requirements of feminine hygiene. As an effective cleanser for office use, or for treatment, or for routine home douching, Trichotine will prove satisfactory to you and its soothing, refreshing action will be reassuring to your patients. 1. Karnaky, K.J.: Med. Record and Annals, Houston 46:296 (Nov. 1952).

The Fesler Company, Inc., 375 Fairfield Avenue, Stamford, Conn.



(VOL. 88, NO. 4) APRIL 1960



TAX-SAVINGS - ORDINARY INCOME VS. LONG TERM CAPITAL GAINS

(Based on federal income taxes for a married couple filing a joint return)

THAT PORTION OF TAX- ABLE INCOME BETWEEN*	ORDINARY INC		ERM CAPITAL TAXABLE AT
\$ 4,000—\$ 8,000	22%	11	%
8,000— 12,000	26%	13	%
12,000— 16,000	30%	15	%
16,000— 20,000	34%	17	%
20,000— 24,000	38%	19	%
24,000— 28,000	43%	211	/2 %
28,000— 32,000	47%	23!	1/2 %
32,000— 36,000	50%	25	%
36,000— and over, various rates up to	91%	25	% MAXIMUM

^{*} After deductions.

limited to those whose occupations generally require graduate work, a highly selective, articulate and intelligent class. On the basis of this sampling it estimates that 6,000 professional men have invested in Diversified Growth Stock Fund, and that a motivating reason was taxes.

Professional people have no cradle-to-grave security other than that which they build for themselves.

There are no government subsidies for doctors or lawyers, and generally no pensions. They cannot establish tax-free retirement plans such as those enjoyed by corporations and partnerships.

The Keogh-Simpson bill, designed to help correct this inequity, has stumbled through many congressional sessions, has been side-tracked, and may never become law. Professional men and women who wait for Uncle Sam to provide special tax relief may wait forever, unless they find some way to take advantage of present tax laws.

Seven out of ten professional persons answering the survey said that they had invested in Diversified Growth Stock Fund because it afforded tax advantages. Since capital gains taxes are always lower than taxes on income, a mutual fund for persons who want capital gains but who do *not* want current income is made-to-order for their purposes. The fund's investment aim of faster than average capital growth, if achieved, helps physicians and others

make the most of the dollars they can invest out of their after-tax earnings.

While it may seem circuitous to build toward future income in a fund that pays little current income, special services offered in connection with this Fund make such a program practical, its sponsors believe. Six out of ten professional people who own shares of the fund are making use of the monthly investment program, which provides automatic reinvestment of dividends, along with the privilege of making regular investments by mail, periodically, at no extra cost and with no contractual obligation to do so. The bookkeeping (free to shareholders) is done by the First National Bank of Jersey City, as agent, including a running account of the total number of full and fractional shares accumulated.

A sales charge is imposed on purchase of shares, but there is no charge for selling. Having paid the charge to purchase shares, the owner is assured of liquidation without cost, even though shares may have doubled or tripled in value while they were held. Of course shares might have gone down in value, depending on securities prices at the time of liquidation. But a successful investment in the fund, it says, could actually cost less in net charges (to buy and sell) than similar profitable transactions in individual securities on the Stock Exchange. If the shareholder wanted to reinvest the proceeds of his shares in another mu-

[†] Does not take into account the \$100 dividend exclusion and the 4% dividends received credit on dividend income.

Armour Pharmaceutical Company Announces a New Systemic Enzyme Chymoral

AM PLEASED to inform you of the latest development of our Company's research.

To the expanding field of systemic antiinflammatory enzymes we are introducing Chymoral. It is a specially coated tablet specifically designed for intestinal absorption. The activity is supplied by a purified concentration which has specific trypsin and chymotrypsin activity in a ratio of approximately six to one.

During past months, clinical investigators have evaluated Chymoral in a wide range of inflammatory conditions. They have reported to us as well as to the medical journals on the therapeutic response, convenience and safety of this oral form.

Patients have responded very well on a Chymoral dosage schedule of 2 tablets q.i.d. and one tablet q.i.d. for maintenance. Important, too, is the fact that where other therapeutic agents were used there were no incompatibilities.

Chymoral is indicated in a wide range of inflammatory conditions to control inflammation, curtail swelling and curb pain.

If you would care to review some of the published reports on Chymoral we shall be happy to send reprints of these papers to you.

Vanera o Hand

Robert A. Hardt President

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tual fund managed by the same organization he pays no commission or sales charge on the exchange. In this way, paying a single sales charge, a physician might build up his retirement fund in shares of Diversified Growth Stock Fund, Inc., and later exchange them upon his retirement for shares of the balanced fund managed by the same organization in order to take advantage of its higher income. He could direct that these shares, in turn, be exchanged for those of a common stock fund in the group upon his death and held in trust for his children or grandchildren. The fund's shares have more than tripled in value since they were first offered in November 1952.

The median age of the professional person

who has invested in this fund is between 36 and 45, compared with median age of 49 for all investors in the country, as reported by the New York Stock Exchange.

Because of increasing living costs, retirement needs grow with time, making the aim faster than average capital growth particularly appropriate for professional persons. If inflation continues, dollars invested today might well turn out to be "cheap" dollars by comparison with those invested later on, indicating that it may never be too early to start investing. The services of diversification, selection and supervision are unusually valuable to the busy professional man. And, as one shareholder (possibly a neurologist) put it, "It's easier on your nerves."

THE GROWTH IN ELECTRONICS

Commercial and industrial electronics sales will soar 250 per cent in the next five years, helping to raise the industry's total annual business to \$25,000,000,000, in the opinion of David Sarnoff, chairman of Radio Corporation of America.

He looks for electronic computers, controls and communication devices to increase from their present \$2,000,000,000 annual sales volume to a volume of about \$7,000,000,000 by 1965.

Mr. Sarnoff said that all other major areas of the electronics industry, which now account for \$14,000,000,000 in sales, would "contribute to the growth pattern of an industry which is advancing at a rate three times faster than that of the national economy. . . . "

In the electronic computer field, he said, sales should reach \$1,000,000,000 this year as compared with about \$700,000,000 in 1958. By 1965 sales are likely to approach \$2,500,000,000, he said.

THEY DON'T ALL GO UP

Last year saw many new records established on the New York Stock Exchange. One was the price investors were willing to pay for industrial stocks, judged by the Dow-Jones average of thirty blue chips. It made a high at the close of the year and then another one January 4, 1960.

But not all stocks went up. The Stock Exchange's annual report shows that 40 percent of the individual common stocks declined. Of the 413 common stock issues which declined, however, 218 showed a loss of less than 10 percent on the year; 115 a drop of 10 to 20 per-

cent; 51 a decline of 20 to 30 percent; 16 a loss of 30 to 40 percent; 11 a 40 to 50 percent decline and only 2 issues a drop of as much as 50 per cent.

In contrast, of 623 issues which improved on the year, 100 showed gains of 50 percent or more; 42 a rise of 40 to 50 percent; 57

The information set forth herein was obtained from sources which we believe reliable, but we do not guarantee its accuracy. Neither the information nor any opinion expressed constitutes either a recommendation or a solicitation by the publisher or the authors for the purchase or sale of any securities or commodities.

MULTI-FACETED CONTROL IN PARKINSONISM

REQUIRES

DISIPAL

Brand of Orphenadrine HC

Lessens rigidity and tremor

Energizes against fatigue, adynamia and akinesia

An effective euphoriant

Thoroughly compatible with other antiparkinsonism medications Highly selective action

Potent action against sialorrhea

Counteracts diaphoresis, oculogyria and blepharospasm

Well tolerated - even in presence of glaucoma

Dosage: Usually 1 tablet (50 mg.) t.i.d. When used in combination, dosage should be correspondingly reduced. Minimal side reactions
Nonsoporific

No known organic contraindications

Bibliography and file card available on request.

Trademark of Brocades Stheeman & Pharmacia, U.S. Patent No. 2,567,351 Other Patents Pending.

Riker Northridge, Colifornia

were up 30 to 40 percent; 92 advanced 20 to 30 percent; 155 rose by 10 to 20 percent and 177 showed gains of less than 10 percent.

At the same time, the Exchange reported new records for the past 25 years in share volume, dollar volume, and odd-lot volume, and new peaks in the number of shares and companies with stocks listed. Reported share volume last year totaled 820,000,000 or the third largest in history and the highest since 1929, averaging 3,240,000 a day. Odd-lot trading reached 177,000,000 shares, for the highest since 1933.

Total volume exceeded a billion shares valued at more than \$43,000,000,000, both figures the highest since 1930.

COLLEGES PREFER COMMON STOCKS

The principal investment of leading colleges continues to be in common stocks, according to a survey made by the Boston Fund, a \$220,000,000 balanced mutual investment company. It studied the portfolios of 68 colleges which



had aggregate endowment funds of nearly \$4,000,000,000.

It showed that 56 percent of this amount is in common stocks, 30 per cent in bonds, 2.6 percent in preferred stocks, 6.6 percent in real estate and mortgages, and 3.2 percent in other investments.

The Boston Fund survey, released by Henry T. Vance, president, found Standard Oil (N. J.) continuing as the most popular holding of the college endowment funds. Fifty-three colleges

held \$84,900,000 of the issue.

The other nine of the most popular ten in the college group, in the order of dollar holdings were: Eastman Kodak, Du Pont, International Business Machines, General Electric, Texaco, General Motors Corp., Christiana Securities, Standard Oil of California, and American Telephone.

The endowment funds in the study ranged from one of \$4,500,000 to Harvard University's \$602,000,000. Among the larger endowments after Harvard are those of Yale, University of Chicago, Massachusetts Institute of Technology, University of Rochester, Princeton, and University of California.

Industrial stocks generally were favored by the colleges, and oils topped the list. The oil favorites in addition to Jersey were Texaco and California Standard.

Utilities most favored by the colleges were Middle South, American Electric Power, Consumers Power, and Commonwealth Edison. First National City Bank of New York topped the banks; North American, the insurance companies, and Union Pacific and Santa Fe, the rails.

SIX BILLION SHARES ON BIG BOARD

The New York Stock Exchange, frequently dubbed The Big Board, is *really* big. The number of shares listed reached the 6,000,000,000 mark late in February when Tennessee Gas Transmission Co. added 1,600,000 shares.

Of the six billion, the final billion was added in the space of fourteen months.

The Exchange, founded in 1792, was in existence for 137 years before its one billionth share was listed in 1929. The 2 billion mark was reached in 1948, 3 billion in 1954, 4 billion in March 1956 and 5 billion in December 1958.

As of Jan. 1, the total value of the shares listed by 1,116 companies came to \$307,700,-000,000.



MASSENGILL POWDER

the buffered acid vaginal douche with low surface tension

Surface tension of Massengill Powder in standard solution is 50 dynes/cm., compared to vinegar at 72 dynes/cm. This low surface tension enables Massengill Powder to penetrate and cleanse the folds of the vaginal mucosa. It also makes cell walls of infecting organisms more susceptible to therapy.

Massengill Powder is mildly astringent and soothing to inflamed tissue. Patients like its clean, refreshing odor.

Valuable adjunct in management of monilia, trichomonas, staphylococcus and streptococcus vaginal infections.

contains:

Ammonium Alum, Boric Acid, Phenol, Menthol, Berberine, Thymol, Eucalyptol, and Methyl Salicylate.

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee • New York • Kansas City • San Francisco



The normal vagina has a pH of 3 to 4.5, but an infection usually causes the pH to rise. An alkaline mucosa neutralizes a simple, unbuffered acid douche like vinegar within 30 minutes.

In contrast, the buffered acid douche solution of Massengill Powder (pH 3.5 - 4.5) resists neutralizing. The normal, low pH is maintained for 4 to 6 hours in ambulant patients and as long as 24 hours in recumbent patients. This low pH inhibits the propagation of monilia, trichomonas vaginalis, and pathogenic bacteria, but permits growth of the beneficial Döderlein bacillus.

MASSENGILL POWDER

the buffered acid vaginal douche with low surface tension

THE S. E. MASSENGILL COMPANY

Bristol, Tennessee - New York - Kansas City - San Francisco

Tofranil®

In the treatment of depression Tofrānil has established the remarkable record of producing remission or improvement in approximately 80 per cent of cases.¹⁻⁷

Tofrānil is well tolerated in usage is adaptable to either office or hospital practice—is administrable by either oral or intramuscular routes.

Tofranil
a potent thymoleptic...
not a MAO inhibitor.

Does act effectively in *all* types of depression regardless of severity or chronicity.

Does not inhibit monoamine oxidase in brain or liver; produce CNS stimulation; or potentiate other drugs such as barbiturates and alcohol.

Detailed Literature Available on Request.

Tofrānil® (brand of imipramine HCI), tablets of 25 mg., bottles of 100. Ampuls for intramuscular administration only, each containing 25 mg. in 2 cc. of solution, cartons of 10 and 30.

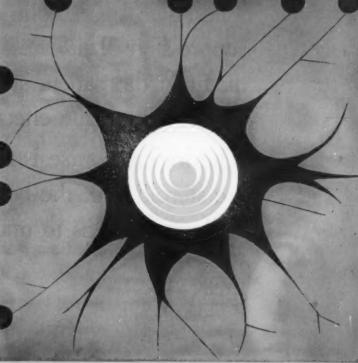
References: 1. Ayd, F. J., Jr.: Bull, School Med. Univ. Maryland 44:29, 1959. 2. Azima, H., and Vispo, R. H.: A. M. A. Arch, Neurol. & Psychiat. 81:658, 1959. 3. Lehmann, H. E., Cahn, C. H., and de Verteuil, R. L.: Canad. Psychiat. A. J. 3:155, 1958. 4. Mann, A. M., and MacPherson, A. S.: Canad. Psychiat. A. J. 4:38, 1959. 5. Sloane, R. B.; Habib, A., and Batt, U. E.: Canad. M. A. J. 80:540, 1959. 6. Straker, M.: Canad. M. A. J. 80:540, 1959. 7. Strauss, H.: New York J. Med. 39:2906, 1959.

Geigy, Ardsley, New York



in depression

lights the road to recovery in 80 per cent of cases



Geigy

TO 4-60



REFLECTION ON CORTICOTHERAPY:

The clinical aim, following immediate suppression of disease symptoms, is to maintain the patient symptom-free... with minimal side effects.

The logical course is to select the steroid with the best ratio of desired effects to undesired effects:

the corticosteroid that hits the disease, but spares the patient



THE UPJOHN COMPANY KALAMAZOO, MICHIGAN

TRADEMARK, REG. U. S. PAT. OFF. -- HETHYLPREDNISOLONE, UPJOHN



nowContro
virtually
all runaway
diarrheas..
promptly,
effectively
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Donnagel with Neomycin

Prompt and more dependable control of virtually all diarrheas can be achieved with the comprehensive Donnagel formula, which provides adsorbent, demulcent, antispasmodic and sedative effects—with or without an antibiotic. Early re-establishment of normal bowel function is assured—for all ages, in all seasons.

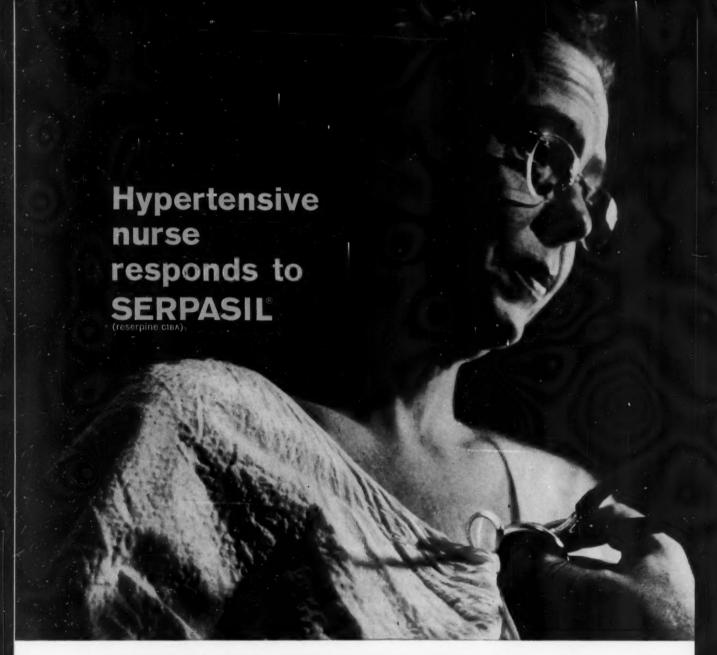
DONNAGEL: In each 30 cc. (1 fl. oz.):

Kaolin (90 gr.)	6.0	Gm.
Pectin (2 gr.)	142.8	mg
Hyoscyamine sulfate	0.1037	mg
Atropine sulfate	0.0194	mg
Hyoscine hydrobromide	0.0065	mg
Phenobarbital (1/4 gr.)	16.2	mg

DONNAGEL WITH NEOMYCIN

Same formula, plus	
Neomycin sulfate	300 mg
(Equal to neomycin base,	210 mg.)

A. H. ROBINS CO., INC., Richmond 20, Virginia . Ethical Pharmacouticals of Merit since 1878



Antihypertensive and calming effects produce good results

Mrs. E. Y., age 45, is active and vigorous. She is a happy woman with many interests: antiques, baking, knitting. Trained as a nurse, she has been married 18 years and, until 7 years ago when her husband was promoted, worked in a doctor's office.

On April 8, 1959 she had a complete physical examination. There was a history of "migraine" headaches—probably due to tension—slight weight gain, and minor gynecologic problems. Laboratory findings and EKG were normal. She had mild, essential hypertension.

Her physician prescribed Serpasil —0.25 mg. at bedtime. Blood pressure responded as follows:

And 9 150/110 He
April 8 150/110 mm. Hg
May 10140/90
June 12 110/80
July 20
November 11 116/70
(Serpasil discontinued)
December 12 1/0/90

Her physician reported: "In view of the slight blood pressure rise [after discontinuation of Serpasil] it is probable that intermittent Serpasil therapy will be necessary indefinitely."



Calmer and normotensive, Mrs. Y. notes: "With Serpasil I don't care that the furniture doesn't get dusted every day."

Photos used with patient's permission.

SUPPLIED: SERPASIL Tablets, 0.1 mg., 0.25 mg. (scored) and 1 mg. (scored).

Complete information available on request.





ANXIETY: A PRIME FACTOR IN HYPERTENSION

Wilfred Dorfman, M.D., F.A.C.P.

President, Academy of Psychosomatic Medicine
Assistant Attending Physician,
Dept. of Medicine, Maimonides Hospital of Brooklyn
Senior Psychiatrist, Brooklyn State Hospital
Clinical Instructor in Psychiatry,
New York School of Psychiatry

My experience, and it is not unique, indicates that emotional factors play a vital role in the pathogenesis, symptomatology, prognosis and treatment of hypertension.

Anxiety, for example, can produce vasoconstriction, thereby raising blood pressure. And anxiety-induced blood pressure elevations that are transient in the late teens and early twenties frequently become sustained in the forties and fifties.

Hypertension "symptoms" such as headache, dizziness and fatigue (which often are not directly related to the level of the blood pressure) may actually stem from unresolved tension, as may associated symptoms like tachycardia, excessive perspiration and cold hands and feet. For the most part, high blood pressure patients are not—as popular conceptions would have us believe—bellicose, expansive individuals. Aggressive they may be, but their aggressive impulses are, characteristically, turned inward. Clinically one usually finds they are too tranquil, too self-controlled. Beneath their placid exteriors lie tensions that may well be responsible for much of their symptomatology.

Emotions affect prognosis in hypertension, too. It appears that acute psychic stress is one of the triggers that suddenly sets off the malignant phase in patients whose hypertension has run a long benign course.

How to "Listen" for Anxiety

Because of its multiple effects, it is important to assess the degree of anxiety in the hypertensive patient. What he says and how he says it are significant indicators. Here are some of the things to listen for: Is the patient's speech too rapid, incessant, occasionally incoherent? Is his story disorganized? Does he relate multiple somatic complaints, which follow no known disease pattern? Does he flit from one symptom to another without pause, or does he elaborate on each in infinite detail? Does he reveal feelings of panic which are associated with his symptoms?

These are all signs suggestive of anxiety. By being alert for them the physician becomes more sensitive to his patient's needs. Thus he will avoid casual, inadvertent remarks which in anxious, over-reactive hypertensives may be prejudicial. Equally important, he will be able to plan a therapeutic program that will control his patient's anxiety-induced symptoms as well as his high blood pressure.

CURRENT READING ON FINANCIAL SUBJECTS

Wall Street firms are glad to supply those who are interested with views on various industries and companies. You can do us a favor if you mention Medical Times as the source of your information. A partial list of such literature that has come to hand recently follows.

SUBJECT

Salant & Salant, Inc.
National Biscuit Co.
American Cyanamid Co.
Allis-Chalmers Mfg. Corp.
Colgate-Palmolive
American Waterworks
The Drug Industry
Westinghouse Electric Corp.
American Tel. & Tel. Co.
Ford Motor Co.
Siegler Corporation
Information Services, Inc.

Boat stocks Roberts Co. British Columbia Forest Products

Perrine Industries, Inc. Philco Corporation

Dictaphone Corporation Gardner-Denver Co. Radio Corp. of America Standard Brands, Inc. Morgan Engineering Co. Allied Chemical Corp. Chemical Companies Amer. Tel. & Tel. Co. Swift & Co. Crouse-Hinds Co. Standard Packaging Corp. Magnavox Co. Ford Motor Co. American Water Works Allis-Chalmers Mfg. Co Montgomery, Ward & Co. Di-Noc Chemical Arts, Inc. Loral Electronics Corp. National Biscuit Co. Holiday Inns of America Knox Glass, Inc.

Arvin Industries
Random House, Inc.
Crompton & Knowles Corp.
Royal Dutch Petroleum
Chase Manhattan Bank
Anthony Pools, Inc.
Martin Co.

FIRM

Jesup & Lamont
Francis I. duPont & Co.
Carreau & Co.
Laird, Bissell & Meeds
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Dreyfus & Co.
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Reynolds & Co.
W. E. Hutton & Co.
Fahnestock & Co.
Porges, Singer & Co.
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S. D. Fuller & Co. A. C. Allyn & Co.

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Carreau & Co.
Thomson & McKinnon
Herzig, Farber & McKenna
Burnham & Co.
Hayden, Stone & Co.
Marron, Sloss & Co.
Robert Garrett & Sons

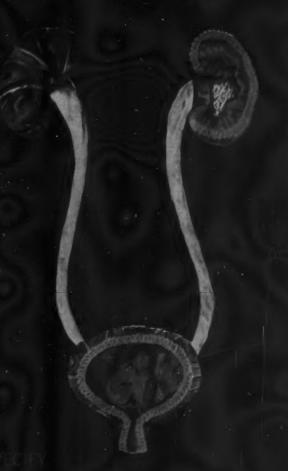
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Baltimore 3, Md.

63 Wall St.

Just a "simple" case of cystitis may be the precursor of pyelonephritis'or may actually be the first evidence of a pre-existing pyelonephritic process.2



WHEN TREATING CYSTITIS-

to ensure rapid control of infection throughout the urogenital system

Rapid bactericidal action against a wide range of gram-positive and gram-negative bacteria including organisms such as staphylococci, Proteus and certain strains of Pseudomonas, resistant to other agents actively excreted by the tubule cells in addition to glomerular filtration • negligible development of bacterial resistance after 8 years of extensive clinical use excellent tolerance-nontoxic to kidneys, liver and blood-forming organs - safe for long-term administration

AVERAGE FURADANTIN ADULT DOSAGE: 100 mg. q.i.d. with meals and with food or milk on retiring. Supplied: Tablets, 50 and 100 mg.; Oral Suspension, 25 mg. per 5 cc. tsp. REFERENCES: 1. Campbell, M. F.: Principles of Urology, Philadelphia, W. B. Saunders Co., 1957. 2. Colby, F. H.: Essential Urology, Baltimore, The Williams & Wilkins Co., 1953. NITROFURANS—a unique class of antimicrobials—neither antibiotics nor sulfonamides EATON LABORATORIES, NORWICH, NEW YORK

GUIDE FOR INVESTORS

Based on recommendations of the Securities and Exchange Commissions in cooperation with the New York Stock Exchange, American Stock Exchange, National Association of Securities Dealers and others.

- 1. Think before buying, guard against all high pressure sales.
- 2. Beware of promises of quick spectacular price rises.
- 3. Be sure you understand the risk of loss as well as prospect of gain.
- 4. Get the facts—do not buy on tips or rumors.
- 5. Give at least as much thought when purchasing securities as you would when acquiring any valuable property.
- 6. Be skeptical of securities offered on the telephone from any firm or salesman you do not know.
- 7. Request the person offering securities over the phone to mail you written information about the corporation, its operations, net profit, management, financial position and future prospects.

A MOVE AGAINST THE TOUTS

New York State plans to intensify its crackdown on investment advisory services that "tout" a stock, regardless of its value, and frequently create a false or inflated market. This was made clear by Attorney General Louis J. Lefkowitz.

He recommends a bill that would require all investment advisory services to register with his office and file copies of the literature they intend to circulate. Brokers, dealers and others who receive any compensation for advice to investors also would have to register.

The filing fee would be \$100 for each investment advisory statement. Exceptions to the proposal would be brokers or dealers who give investment advice solely as incidental to their business and receive no pay for it.

Violation of the proposed law would be a misdemeanor. The Attorney General also could seek an injunction to restrain publication of the information by a service.

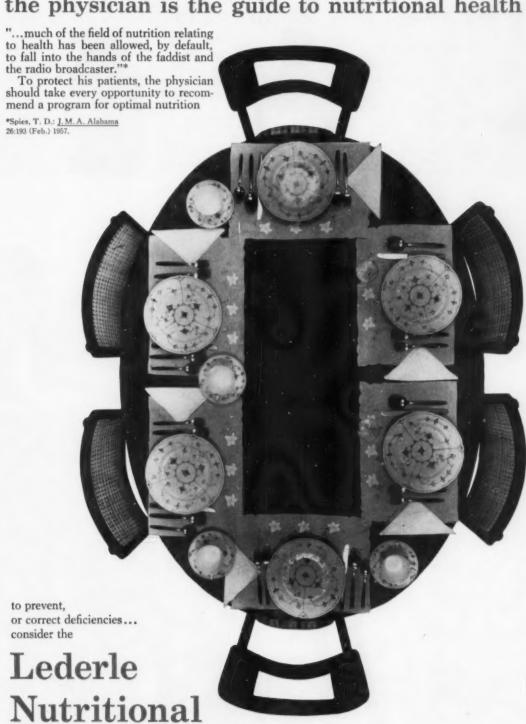
Mr. Lefkowitz said his office, in its investigations, had found at least two cases where "criminal elements have attempted to infiltrate this important field" of investment advice. He said the legislation was worked out with representatives of the New York and American Stock Exchanges and the National Association of Securities Dealers in an effort "to cope with this threat to the securities markets."

INVENTORY BUILDING SLACKENS

Inventory building is proving to be a less potent stimulus than had been hoped, and consequently sights are being lowered on the extent of the 1960 business advance, according to The Value Line Survey. Shortages of late 1959 have been corrected and consumers are showing no special eagerness to buy, nor business men to stock goods.

"A more modest rate of increase, governed by the consumption economy, thus seems in store for business this year," the Survey says. Even in the important area of capital spending, there appears to be no rise of boom proportions under way. To some extent, this cau-

the physician is the guide to nutritional health



(VOL. 88, NO. 4) APRIL 1960

Formulas

LEDERLE NUTRITIONAL FORMULAS

GEVRAL

Capsules Vitamin-Mineral Supplement

Effective general supplement for the family to ensure optimal nutritional status. Fourteen vitamins, eleven minerals in each dry filled capsule. Packaged in the decorative dining table in the decorative dining table. jar. Just 1 capsule daily.



GEVRABON Liquid Vitamins-

Minerals Unique sherry-fla-vored liquid supple-ment particularly favored by senior citizens. Essential vitamins-minerals in attractive decanter bottle (16 oz.). 2 tablespoonfuls daily ... plain ... chilled ... over ice...or as they like it.



GEVRINE Vitamins-Minerals-

Hormones

For the elders – com-prehensive nutritional support with androgen and estrogen for proper bone and protein me-tabolism. Helps reduce taboism. Helps reduce or correct tissue atro-phy, asthenia, clinical osteoporosis, postmeno-pausal changes, "aging" mentality. Usually 1 capsule daily. Bottles of 100 and 1,000.





GEVRAL

PROTEIN
Vitamin-Mineral-Protein
Supplement
High protein (60 per cent) supplement
plus 26 vitamins-minerals...to correct or
prevent deficiencies, nitrogen imbalance.
Ideally suited to those making a general
physical "comeback." In ½ lb. jar or 5
lb. can. New delightful recipes available
on request. Excellent for tube-feeding.



GEVRAL T

Capsules

Therapeutic Vitamins and Minerals

High potency formula...broad coverage ...for intensive treatment of overt or incipient nutritional failure. 28 factors — including all oil-soluble vitamins, all B-complex, amino acids. Indicated for the convalescent or whenever requirements are abnormally high. In attractive diningtable jar. Usually 1 capsule daily.



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Pearl River, New York Ledonto



tion may be traced to the steep stock market declines of January and March and their effect on businessmens' confidence—which, after all, is the controlling factor determining the pace of the economy. "In the long run, however," it concludes, "if such excesses as those which have ended previous periods of prosperity fail to develop, the overall health of the economy would be likely to benefit as a result."



DIP IN HOME BUILDING

One of the indices of business most closely watched by economists and prognosticators is the number of new homes started. A group of top-ranking bankers, who met recently in San Francisco, believe the nationwide total this year will drop 12 to 13 percent below last year's figure. They regard this, however, as merely a "return to normal."

The meeting was attended by 125 bankers from seven western states. It was a regional mortgage workshop meeting, conducted by the American Bankers Association and lasted two days.

D. Clair Sutherland, senior vice president of the Bank of America, said the decline will be a "healthy adjustment." He added, "The perfectly natural thing is happening—the demand for shelter has been met."

Dr. Kurt F. Flexner of New York, director of Mortgage Finance for the A. B. A. said, the nationwide construction of new housing this year will total 1,200,000 units, compared with 1,400,000 last year.

Mr. Sutherland also predicted conventional loans will finance about 70 percent of the nation's \$22,500,000,000 housing expenditure this year, with FHA and Veterans loans making up the balance. Government-insured loans finance about half of last year's home building.

"There was a real boom in FHA operations last year when conventional mortgages accounted only 50 percent of the total, but financing now is slowing down," he said.

Dr. Flexner said the Association's real estate committee will make recommendations in June on how to create a more liquid national market for conventional mortgages.

Joseph R. Jones, ABA vice president, said one method under consideration is creation of an agency which would offer bonds or debentures to the investing public backed by mortgages. The purpose would be to tap new sources of savings, such as pension and welfare funds, he said.

Dr. Flexner predicted there will be a "normal" increase in housing demand as "the decade moves along" because of population gains. "I think it's important not to overbuild," he said.

STEADIER FOOD PRICES

The Department of Agriculture looks for food prices to stop falling this year and remain at about the 1959 level. While it expects the price of food itself to hold steady it believes the cost of processing and distributing will inch upward.

Food prices last year fell about 2-2½ percent below the 1958 level, the department said in its publication, *The National Food Situation*. This reflected lower prices paid to farmers.

Food marketing charges jumped one percent.

But increases in other prices more than offset the drop in food costs and the cost of living went up 1 percent.

The Agriculture Department also predicted that demand for food will continue strong and supplies will increase in 1960. Irrespective of the population increase, per capita food consumption will remain about the same.

NOW...triple sulfa vaginal therapy

in convenient tablet form

NEW

Sultrin

triple sulfa vaginal tablets

for simplified control of vaginal infections...

"The clinical response obtained with the new vaginal tablet [SULTRIN] is comparable to that obtained with the same three sulfonamides in cream form. The vaginal discharge was rapidly controlled and the vaginitis and cervical erosions were cured in a high percentage of patients."*

One tablet intravaginally twice daily for 10 days. Course of treatment may be repeated if necessary. Box of 20 tablets with vaginal applicator.

also available: Triple Sulfa Cream.† Large tube with or without applicator.

*Taleghany, P., and Heltai, A.: Am. J. Obst. & Gynec., in press.

83888



TRADEMARE

WE SPEND, BUT WE ALSO SAVE

A record \$6,693,000,000 was added to their thrift accounts in savings and loan association last year by thrifty Americans. This increased deposits of the nation's 6,200 association to \$54,000,000,000.

A report by the Federal Home Loan Bank board said the increase was 9 percent greater than in 1958 and a 37 percent higher than in 1957. Deposits totaled \$22,260,708,000 in 1959 and withdrawals amounted to \$15,567, 379,000.

Thanks to the increase in savings, the associations made a record \$15,499,000,000 in home loans, up 26 percent from 1958, the previous high.



Allowing for repayment on outstanding home loans, the total of such indebtedness held by the associations increased by \$7,500,000,000 to a record \$53,000,000,000.

The report said the associations' gain in savings last year was greater than the total deposits they held prior to 1945.

VARIABLE ANNUITIES CLEARED

The controversy over the issuance of variable annuities has been cleared up with the issuance of rulings by the Securities & Exchange Commission governing their sale.

In the usual sense an annuity provides for a fixed income which a buyer gets after making payments over a number of years. It is a contract, just as is a life insurance policy. The term "variable annuity" likewise is a contract and calls for regular payments, but it is variable in that these payments are not in a stated amount.

Their size depends upon the success of the company, the underwriter, in its investments, which include common stocks.

Variable annuities were developed as an antiinflation hedge. The insurance industry was divided as to whether they constituted a form of insurance at all. The S.E.C. inclined to the belief they were investments, not insurance.

The Supreme Court also held this belief and ruled that the Commission therefore has jurisdiction over the issuance of such policies.

Now the companies are able to go ahead, under S.E.C. rules, and the first two to receive clearance were The Variable Annuity Life Insurance Company of American and the Equity Annuity Life Insurance Co. Their contracts must be registered with the S.E.C. as each annuity is regarded as an offering of securities.



AN AID TO MOTHER NATURE

The "fresh food" flavor of frozen, canned and dried foods can be maintained without artificial chemical additives by a new method of preserving, according to Evans Research & Development Corporation. It has unveiled its method, which its scientists say, "is a reproduction of Nature's process and can be used to

preserve flavor while foods are being processed or to restore flavor afterwards."

According to its scientists, Dr. Eric J. Hewitt, Dr. Donald A. M. Mackay and Dr. Kurt S. Konigsbacher, and Dr. Torsten Hasselstrom of the U. S. Army Quartermaster Corps Research Division, the Evans process is based on the discovery that fresh flavor is produced by the catalytic action of specific enzymes on

MONTH AFTER MONTH, ULCER PATIENTS SAY... TASTY IS THE WORD FOR

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UNIQUE ANTACID WITH MILK-LIKE ACTION

TITRALAC is being widely prescribed in peptic ulcer, gastric hyperacidity, and in heartburn of pregnancy because of these outstanding features:

- creamy, mint flavor ... no chalky taste
- acts in seconds...lasts for hours
- · non-constinating... no acid rebound

FITRALAC is effective to small doses. One teaspoonful TITRALAC Liquid approximates 2 tablets which contain 0.36 Cm. glycine and 0.04 Cm. calcium perbonate. ACID MENTRALIZING PONCE

ly 1 teaspoonfu

2 tablets

1 pint milk

ALSO WITH A SPASMOLYTIC ..

titralac-sp

(Titralac formula 4- 0.5 mg

(Schenjabs)

CHENTERS PHARMACEUTICALS, INC. New York L. N. Y.

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61.M. 866. 9.5. 541. 055.

chemical compounds in natural foods called flavor precursors.

Freezing, canning or dehydrating destroys much of the enzymes responsible for that "fresh flavor" but it doesn't destroy the precursor compounds in the foods.

If the enzymes are made to survive the processing in a dormant form or are restored to the food after processing, fresh flavor can be restored to the food, they say. This is quite a different process from using artificial flavor additive in frozen, canned or dried foods. The U. S. Food and Drug Administration keeps a watchful eye over the use of artificial flavor additives.

The process has been tested, they said, on stringbeans, cabbage, broccoli, horseradish, bananas, pineapples, blueberries, milk, meat, fish and cereals.

Several food companies have applied for licenses to use the process and the quarter-master corps definitely is interested.

One interesting thing about the process is that the flavor enzymes used in enabling the flavor to be regenerated from the precursor compounds in the food after processing are obtained from the foods themselves. They are extracted from bruised or overripe fruit or from the stalks, skin, leaves or other parts of the same fruit, vegetable, meat or dairy product.

The enzymes can be added to the food during processing, during packaging or even in a powder to be applied to the food just before it is served.

The process is not very costly and does not require expensive equipment, Dr. Konigsbacher says. But it can convert many processed foods from ordinary to premium products, according to Dr. Hewitt.

Evans Research & Development Corp. does basic and applied research for a number of companies in the food, beverage, cosmetic, chemical and plastic industries.



LADIES ARE LATE WATCHERS

The gentle sex, say the nose-counters, likes to stay up late at night and watch television. According to a study published by "Sponsor," in its February 6 issue, there are nearly 13,500,000 women viewers at 11 p.m. By 11:30 p.m. though 4,500,000 have joined the ranks of Morpheus 9,000,000 others still remain tuned in to their sets.

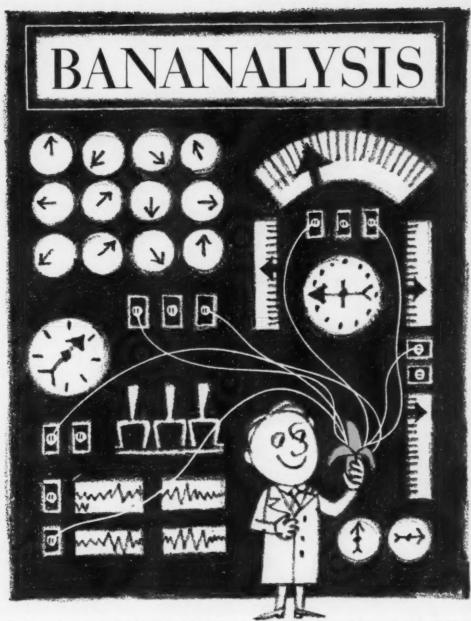
AUTOMATED BUYING MAY BE NEAR

Completely automated accounting and merchandising is on its way in the retail trade field, we judge from the words of experts who recently attended a five-day conference in San Francisco on electronic data processing, held by the National Retail Merchants Association.

They believe stores can look forward to perpetual automatic inventories and re-order systems, machines that will give warning when a housewife goes on a dangerous buying spree with her charge account, and even machines that will predict when a particular item is going to lose favor with the store's patrons. Other machine systems will study the buying habits of customers, both in the mass and as individuals.

Much of this picture was drawn for the meeting of Robert McBrier, a vice president of Woodward & Lothrop in Washington, D. C., who said the day will come when big stores will have almost fully integrated data processing.

Computers also will keep records on all employees, he said,—daily and weekly records of the hours each works and of his productivity. In fact, machines ultimately may make many decisions as to what workers in a store are en-



Qualitative determination is initiated by dissecting a banana with your teeth. Each bite, approximately 2.5 cm. in width, should be masticated slowly, and centrifuged around the taste buds for about two minutes. What's your analysis? Delicious—of course—but that's only a cursory diagnosis. Under low power, further examination reveals a highly palatable white substance, containing generous amounts of vitamins A, B₁, B₂, C, and niacin, plus all essential minerals and carbohydrates. These nutritious ingredients are evenly distributed throughout the whole banana for healthful, energy-giving desserts and snacks. Substances such as cholesterol, considered undesirable in some diets, are absent. Only insignificant quantities of fat and sodium can be found. Perform your own bananalysis today. Help your patients and yourself to a banana.

UNITED FRUIT COMPANY, 30 St. James Avenue, Boston 16, Massachusetts

titled to receive a raise in pay.

Mr. McBrier said retailers now are making the astonishing discovery that in the past the billing and collecting of charge accounts and gathering of credit information has taken so much of their time and effort that they actually have taken little pains to gather data about all the other important aspects of merchandising. Electronic data processing is now enabling them to correct this.

VIEWS ON VARIOUS STOCKS

The trend of the stock market thus far in 1960 has caused many in the investment field to temper their predictions on what the balance of the year holds. Each individual firm, and probably each individual analyst, however, has favorites, and thus, while many have turned skeptical with respect to the general market, they speak encouraging words regarding individual securities and companies. The normal attitude in Wall Street is one of optimism.

Presented below are recommendations made recently by a cross section of the analysts of the Street.

- Kroger Co.—It had record sales of \$1,-911,900,000 in 1959, up 7.6 percent from 1958's total, and earnings per share of \$2.06 showed a 17 percent improvement over the previous year's \$1.76. Eastman Dillon, Union Securities & Co. believes the company's aggressive pursuit of greater efficiency, through gradual replacement of small uneconomical stores with large, efficient supermarkets, will bring about a bigger percentage gain in earnings than projected higher sales previously indicated.
- Armour & Co.—The management, which took over in 1957, embarked on a rehabilitation program which already has restored more profitable earning power. It has an annual sales volume of \$1,800,000,000. Carl M. Loeb, Rhoades & Co., which recommended the stock as long ago as August, 1958, from which date it more than doubled in price, still regards the shares as reasonably priced. They sell at a relatively low price/earnings ratio and, at long last, the company is paying dividends again, which provide a nice yield.
- Aerojet General Corp. The company has great technical and scientific know-how in the missile and rocket industry, which is growing fast. Hirsch & Co. notes the setbacks with

the Titan, and grants that were the Titan program cancelled, Aerojet would suffer extensively, but that the Air Force has indicated the program still is firm. Management believes that by 1962 the volume on this program alone will exceed \$100,000,000 annually. It looks for this year's total sales to reach \$425,000,000 from last \$364,000,000.

- International Harvester It had record sales of \$317,000,000 in the first fiscal quarter, ended January 31, 1960, and this produced net of 91 cents a share for the period, compared with a loss in the like quarter of the previous year, caused by a strike. For the full fiscal year Paine, Webber, Jackson & Curtis thinks net will equal the record \$5.10 of 1959, and this excludes as additional 76 cents a share last year on net income of subsidiaries.
- F. W. Woolworth Co.—The management seeks a goal of \$1,000,000,000 in sales this year and Hornblower & Weeks believes that, under favorable economic conditions, this could yield a net of \$4.50 a share. There was a 20 percent growth in earnings last year, helped by better efficiency in modern stores and higher returns attained through extension of self-service merchandising.
- Ranco, Inc.—It is a leading producer of automatic temperature and pressure controls for the refrigerating and air conditioning industries. Cruttenden, Podesta & Co., Chicago, points out that there is a wider use of temperature controls developing in this country; a rapid growth in the European market, where Ranco has four plants; and it has developed new products through an active research program.
- Wilson Jones Co.—It is in the office equipment business and for a number of years its operations, while profitable, were unimposing. Gruntal & Co. believes that, thanks

potentiated therapy for advancing hypertension: Apresoline-Esidrix

Esidrix potentiates the action of Apresoline, producing good blood pressure response with low dosage, minimal side effects. Added benefits: Improves renal blood flow; relaxes cerebral vascular tone; provides diuresis in decompensated cases. Each combination tablet contains 25 mg. Apresoline and 15 mg. Esidrix. APRESOLINE® hydrochloride—ESIDRIX® (hydralazine hydrochloride and hydrochlorothiazide CIBA) Complete information available on request)

a/ 2750 HB





DEPRESSION INDUCED ANXIETY

most commonly encountered in:

psychosomatic disorders chronic diseases other organic illnesses

most commonly expressed by:

nervousness
anorexia
tension fatigue states
sadness
somatic complaints
insomnia
apprehensiveness
irritability
hypochondria

most effectively treated with:

a true antidepressant which relieves the depression-induced anxiety by alleviating the depression itself

Nardil

brand of phenelzine dihydrogen sulfate a true antidepressant—not a tranquilizer

the common problem basically unresponsive to tranquilizers

TYPICAL CASE HISTORIES FROM THE LITERATURE



"A 44-year-old housewife with symptoms of anxiety referable to her heart and stomach. All examinations were negative for the presence of organic disease...she had received 4 different tranquilizers."

On Nardil "the majority of her anxiety symptoms had disappeared. Later she remarked that she was 100% better....There has been no return of former complaints." *

"Hobbs, L. E. Virginia Med. Menthly 86:492, 1959.



"Characteristically the patient complains of impaired appetite, insomnia, irritability, loss of attention and concentration, tendency to worry and marked irritability...treatments are usually built [in vain] around some sedative or tranquilizer....

With Nardil this condition is easily managed...by the practicing clinician."**

*Sains, A.: Dis. Ners. System 20:537, 1959.

simple, economical, rapidly effective therapy



DOSAGE: 1 tablet three times a day.

SUPPLIED: Orange-coated tablets, each containing 15 mg. of phenylethyl-hydrazine present as the dihydrogen sulfate. Bottles of 100.

MA-GPG9

new for angina pectoris:

Often Succeeds in Difficult Cases

Among 48 patients⁴ previously treated with other coronary vasodilators, ISORDIL was demonstrably superior in 37, equivalent in 9, inferior in 2.

Markedly Reduces Attacks

Albert⁵ found that 92 per cent of patients responded favorably to ISORDIL. During this study, anginal attacks were reduced from an average of 5 a day to just 1.2 a day.

Benefits Confirmed by EKG's

Electrocardiographic studies by Russek³ clearly show that ISORDIL produces a more favorable balance between oxygen supply and demand following the Master two-step test.

"The most effective medication for the treatment of coronary insufficiency available today."

-Sherber⁶

prompt, prolonged coronary vasodilatation

- 13 rapid onset ISORDIL acts rapidly compared with other prophylactic agents—patients usually experience benefits within 15 to 30 minutes. Virtually eliminates unprotected periods.
 - prolonged action

 The beneficial effects of a single dose persist for at least 4 hours—therefore for most patients q.i.d. dosage is highly satisfactory.
- consistent effect Response of patients treated in various clinical studies' to date was 85 per cent good, 7 per cent fair, and 8 per cent unsatisfactory.

 The only side effect reported has been transitory, easily controlled headache, normally considered an expression of effective pharmacodynamic activity.²

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"ISORDIL is a new and effective agent for therapy of angina pectoris." —Russek³

ISOR DILL*
Isosorbide Dinitrate, Ives-Cameron
IVES-CAMERON COMPANY • New York 16, New York

Literature and Professional Samples Available on Request

*Trademark

to a change in management, it is in the early stages of a transition from a listless and mediocre concern into one that is aggressive, dynamic and animated.

- Armco Steel Corporation—It is the eighth largest domestic steel producer, with fully integrated operations. The favorable outlook for the automobile and appliances industries, two of its largest customers, convinces Fahnestock & Co., that its earnings prospects for the near term have improved appreciably.
- Scoville Manufacturing Co.—It is an old company, having been established in 1850, and it has paid dividends since 1855. It produces thousands of metal products. Thomson & Mc-Kinnon describes the stock as a "comeback stock," because its earnings last year made an impressive recovery from those in the recession year of 1958. The firm believes the outlook for further earnings gains is excellent.
- Philco Corporation—It has long been a leading producer of consumer goods and Bache & Co. is impressed with the growing position it is attaining in military and industrial electronics. Last year, despite a substantial non-recurring write-off, its earnings advanced to \$1.67 a share from 1958's 61 cents. The firm looks for \$2.50 a share this year, with more than that possible if this proves to be a boom year for consumer products.
- Salant & Salant, Inc.—It is a leading private label manufacturer of sports and utility wear items, founded in 1893. It has reported a profit each year with the single exception of 1924, when it had non-recurring legal expenses which exceeded that year's profits. Jesup & Lamont points out that it provides a good yield and sells on a conservative price/earnings ratio. Earnings on its class A publicly traded shares was \$4.04 a share last year against \$2.67 the previous year.
- Armstrong Rubber Co. Its growth in sales, net income and earnings per share over the last few years has exceeded that of the Big Four rubber companies. Dominick & Dominick notes that a policy of plowing back earnings into efficient new machinery has improved its profit margins, and that its marketing position has been aided by a close relationship with Sears, Roebuck & Co.

- Transamerica Corporation It owns a life insurance company, three fire and casualty companies, one industrial enterprise, a real estate development firm and a sizable security portfolio. Jacques Coe & Co. says that as 1960 may be a spotty year, with a selective stock market, it favors Transamerica as a situation offering continued expansion.
- American-Saint Gobain Corporation—It is an American concern with control vested in Saint Gobain of France. It produces about 20 percent of domestic sheet glass and 33 percent of domestic rolled glass, and by 1962, when plate glass facilities are completed, it expects to account for 8 percent of total U. S. plate glass production. New York Hanseatic Corporation regards it as a dynamic situation for long term capital gains that is available below book value. It looks to a sales capacity of \$65,000,000 in the first year of plate glass operations, and earnings, after full conversion, of \$2.50 a share.
- Boom in Europe—While we are wondering about the 1960's, and the stock market, Ralph E. Samuel & Co. says those who made early commitments in European securities have no such doubts. They are confident, and the firm ascribes this to:
- 1. incomes are rising more rapidly in Europe than in the U.S.;
- saturation levels for all kinds of goods are far lower;
- 3. manufacturing capacity and equipment in Europe, in many cases, not only equals that in the U.S., but is more efficient;
- low wage rates enable European industry to compete on favorable terms anywhere in the world; and
- 5. elimination of national economic boundaries is spurring the growth of larger and more efficient industrial companies.
- Kimberly-Clark Corporation It is one of the quality companies in the paper industry, fully integrated, and producing the most diversified lines of paper and paper products in the industry. In fiscal 1960, ended April 30, Reynolds & Co. believes the figures, when published, will approach \$3.40 a share against \$3.01 in fiscal 1959, and that even better results should be witnessed in the future.

RESULTS IN 366 PATIENTS WITH STOMACH ULCERS

DIAGN	NOSIS	TOTAL	MARKED IMPROVEMENT WITH X-RAY GAINS	MARKED IMPROVEMENT	SLIGHT IMPROVEMENT	NO IMPROVEMENT	
PEP	TIC	50	10	29	9	2	
GAS	TRIC	56	11	33	10	2	
DUC	DENAL	256	39	175	33	9	
PYLO	ORIC	4	_	1	2	1	
TOTA	AL	366	60	238	54	14	
Summ	nary of investigators'	reports.	16%	65%	15%	4%	

REPORTED BY PATIENTS, CONFIRMED BY X-RAY, 81% MARKED IMPROVEMENT IN STOMACH ULCER.

proven relief of pain, spasm and nervous tension without the side effects of belladonna, bromides or barbiturates

INDICATIONS-

duodenal and gastric ulcer
gastritis
colitis
spastic and irritable colon
gastric hypermotility
esophageal spasm
intestinal colic
functional diarrhea
G. I. symptoms of anxiety-states

NOW-2 FORMS for adjustability of dosage

Milpath - 400—Yellow, scored tablets of 400 mg. meprobamate and 25 mg. tridihexethyl chloride (formerly supplied as the iodide). Bottle of 50.

Dosage: 1 tablet t.i.d. at mealtime and 2 at bedtime.

Milpath - 200—Yellow, coated tablets of 200 mg. meprobamate and 25 mg. tridihexethyl chloride. Bottle of 50.

Dosage: 1 or 2 tablets t.i.d. at mealtime and 2 at bedtime.

Milpath

*Miltown + anticholinergic



allergen

when air-borne tree pollens attack...

BENADRYL

antihistaminic-antispasmodic

gives prompt, comprehensive relief

In sensitivity to tree pollens, BENADRYL provides simultaneous, dual control of allergic symptoms. Nasal congestion, lacrimation, sneezing, and related histamine reactions are effectively relieved by the antihistaminic action of BENADRYL. At the same time, its antispasmodic effect aids in alleviating bronchial and gastrointestinal spasms. This duality of action makes BENADRYL valuable throughout a wide range of allergic disorders.

BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms including: Kapseals, 50 mg.; Kapseals, 50 mg. with ephedrine sulfate, 25 mg.; Capsules, 25 mg.; Elixir, 10 mg. per 4 cc.; and, for delayed action, Emplets, 50 mg. For parenteral therapy, BENADRYL Hydrochloride Steri-Vials, 10 mg. per cc.; and Ampoules, 50 mg. per cc.

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Prescription
For
Travel

A Summer Tour to Europe

The season for European travel is fast drawing near. If you have made no arrangements but are still considering such a trip, here is a tour which can be tailored to fit your requirements.

One of the prime advantages of a planned tour is the fact that it is *planned*, laid out by experts who know how much can be accomplished without fatigue in a day's sightseeing, how valuable time can be saved by special travel arrangements, which hotels offer the best accommodations and service.

This knowledge and a great deal more is applied in laying out your tour. The final result is a neat blueprint which leaves you free to enjoy your tour without having to worry about hotel accommodations which may or may not materialize, tricky transportation connections, etc.

If Europe is your goal this year, you may want to consider a tour that has been specially tailored for the physician and his family. It includes a comprehensive itinerary—England, Belgium, France, Switzerland, Italy, Austria and Germany—and also an opportunity for you to attend professional meetings. The tour will leave from New York on August 10 and return on September 20.

While in Switzerland you can attend the International Congress of Internal Medicine.



It will be held in Basle, from August 24 to 27. Basle is of added interest to the physician as it is the home city of four major ethical pharmaceutical houses—Ciba, Geigy, Roche and Sandoz. The tour operators would be glad to help in arranging visits to these companies. Similarly, if there are hospitals or research centers in any of the countries on the itinerary that you would like to visit, the tour operators can assist with arrangements.

Having had long experience in handling this type of tour, the operators—Special Interest Tours, Inc., of Syracuse, N. Y. — have the necessary European contacts to set up visits which would be of professional interest to you.

An outstanding feature of this special tour is a visit to Oberammergau, Germany, the town in the Bavarian Alps famous for its Passion Play. Presented only once every ten years, this spectacle is regarded as the top

reduces the problems of reducing

whether obesity is simple or complicated

Through the potent appetite-suppressant action of Preludin, the success of anti-obesity treatment becomes more assured-adherence to diet becomes easier-discomfort from side reactions is unlikely.

In Simple Obesity Preludin produces 2 to 5 times the weight loss achievable by dietary instruction alone.1,2

In Pregnancy Weight gain is kept within bounds, without danger to either mother or fetus.3

In Diabetes Insulin requirements are not increased; they may even decrease as weight is lost.4

In Hypertension Preludin is well tolerated and blood pressure may even fall as weight is reduced.1

Patients taking Preludin usually experience a mild elevation of mood conducive to an optimistic and cooperative attitude, thereby counteracting the lassitude otherwise resulting from a reduced caloric intake. Thus, consistent weight loss over a prolonged period becomes more assured.

Preludin® Endurets, T.M. brand of phenmetrazine hydrochloride: prolonged-action tablets of 75 mg. for once daily administration; and scored, square, pink tablets of 25 mg for b.i.d. or t.i.d. administration.

Under license from C. H. Boehringer Sohn, Ingelheim. References: (1) Barnes, R. H.: J. A. M. A. 166:898, 1958, (2) Ressler, C.: J. A. M. A. 165:135, 1957. (3) Birnberg, C. H., and Abitbol, M. M.: Obst. & Gynec. 11:463, 1958. (4) Robillard, R.: Canad. M. A. J. 76:938, 1957.

Geigy, Ardsley, New York



Geigu





Sunny Monaco on the Mediterranean, one of the places on the family physician's tour of Europe. Shown below is the palace, home of a very famous royal couple. Monaco Information Center Photos



tourist event in Europe for the 1960 season.

The play is an undertaking that involves almost all the inhabitants of the picturesque Bavarian town. There are 152 speaking roles, and the actors are chosen by the village's electors. This drama has no counterpart elsewhere.

Added Advantages

In all of the cities on the itinerary — from London to Vienna—you will be taken on the best local sightseeing tours available. And you do not have to make arrangements for these or pay anything extra. They are all part of your over-all tour.

During your stop at Nice, for example, you take a half-day drive to Monte Carlo to see the Palace, the Oceanographic Museum and the fabled Casino. Part of the drive is through quaint towns, part along a road which clings to mountains overlooking the Mediterranean.

You can cross the Atlantic by plane or ship. (Plane will save you some eight days' travel time.) The liner designated is the *Queen Mary*. Rail and boat transportation in Europe is all first class, with taxi service provided to and from air and rail terminals.

Hotel accommodations are designated

"superior." This means not only hotels with outstanding reputations, such as the Hotel Grosvenor House in London and the Palace in Brussels, but excellent rooms with private baths.

• Your choice of travel crossing the Atlantic determines the price of the tour. Complete rates are as follows:

First class steamship accommodations, \$1835.

Cabin class steamship accommodations, \$1595.

First class air travel, \$2050.

Economy class air travel, \$1611.

• If you want to see Europe this summer, and have not yet made any plans, it is advised that you do not delay in contacting the tour operators. Seasoned travelers will tell you that bookings to Europe are not easy to get when the prime travel season draws near, and that the superior hotels are the first to be booked solid.

If you would like more information about these tours, write:

Special Interest Tours, Inc.

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on one capsule daily

Each PRONEMIA capsule contains:

Each PRONEMIA capsule contains:
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2 U.S.P. Oral Units
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Iron (as Fumarate) 115 mg.
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Also available: FALVIN® Hematinic two-a-day formula and PERIHEMIN® Hematinic three-a-day formula.

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NORMAL... SUSTAINED

EASY-TO-TAKE IRON - Highly efficient, excellently tolerated source of nutritional iron, ferrous fumarate, for dependable hemopoietic response. Gentle on the g.i. tract...fewer interruptions of therapy due to side effects.

EASY-TO-REMEMBER DOSAGE-Single capsule regimen assures consistent response...reduces chance of inadequate intake from "forgotten" doses. Full therapeutic iron allowance, plus complementing hematinic formula including B12 and AUTRINIC® Intrinsic Factor Concentrate.



Faster Health Clearance at Airports

The Public Health Service announces the streamlining of quarantine procedures for air travelers arriving in this country. The new system, says the PHS, imposes greater responsibility on the traveler for maintaining valid immunization records.

The Public Health Service has announced the adoption of simplified quarantine procedures at international airports. For the traveler this means a speeding-up of clearance on arrival in this country.

The principal change is elimination of group clearance, which preceded individual quarantine clearance on arrival of planes from foreign countries. Under the new procedures, if the aircraft captain certifies that no illness has been observed during flight, only individual clearance of passengers is required.

Group clearance had been maintained to prevent spread of disease by travelers who might have symptoms of quarantinable illness on arrival. If such illness is reported aboard a plane, or there is an unusual disease problem in the country where the flight originates, the strictest quarantine procedures will be applied. The only major airport where passengers will be kept in groups is Miami, Florida, where the means of access to quarantine facilities makes the change impractical.

The new procedures stress the responsibility of travelers for maintaining valid immunization records and the responsibility of airlines for reporting illness observed among passengers.

Airline and Public Health Service officials consider this streamlining of entrance proce-

dures an aid toward the objective of making visits to this country more attractive. This objective is in line with the President's action in proclaiming 1960 "Visit the United States of America Year."

Visitors from foreign countries and United States citizens returning from abroad will benefit alike from the new quarantine procedures. Immigrants and certain other non-citizens will continue to receive special Public Health Service inspection or examination as necessary to determine compliance with health provisions of the immigration law.

Quarantinable Diseases

The quarantinable diseases defined by international sanitary regulations are smallpox, yellow fever, cholera, plague, louse-borne typhus, and louse-borne relapsing fever. None of the quarantinable diseases is known to have been introduced into the United States from foreign countries since a smallpox outbreak in the New York City area in 1947, although quarantinable disease continues to occur widely in other parts of the world.

Modern international quarantine emphasizes the prevention of illness through immunization of travelers, control of insects, cleanliness of

Continued on page 150a



relief comes fast and comfortably

- does not produce autonomic side reactions
- does not impair mental efficiency, motor control, or normal behavior
- has not produced hypotension, Parkinson-like symptoms, agranulocytosis or jaundice

Usual Dosage: One or two 400 mg. tablets t.i.d.

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets or as MEPROTABS*-400 mg. unmarked, coated tablets.

Miltov



in the low back syndrome



relieves both stiffness and pain with safety... sustained effect

In 100 consecutive patients with the low back syndrome, Kestler¹ reported that particularly gratifying was the ability of Soma "to relax muscular spasm, relieve pain, and restore normal movement, thus speeding recovery in a large majority of the patients."

RESULTS WITH SOMA IN THE LOW BACK SYNDROME*

EXCELLENT TO VERY GOOD 68% GOOD TO FAIR 23.7%

*Investigators' reports to the Medical Department, Wallace Laboratories. (Total of 278 cases)

NOTABLE SAFETY—extremely low toxicity; no known contraindications; side effects are rare; drowsiness may occur, usually at higher dosage

RAPID ACTION—starts to act quickly SUSTAINED EFFECT—relief lasts up to 6 hours

EASY TO USE —usual adult dosage is one 350 mg. tablet 3 times daily and at bedtime

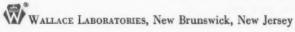
SUPPLIED —as white, coated, 350 mg. tablets, bottles of 50; also available for pediatric use: 250 mg., orange capsules, bottles of 50

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Literature and samples on request

Also available on request: The Pharmacology and Clinical Usefulness of Carisoprodol, Wayne State University Press, Detroit, 1959. (185 pages)







FURACIN® NASAL

brand of nitrofurazone

with phenylephrine

to conquer a growing problem-resistant staph.

"We have used FURACIN Nasal successfully in eradicating staphylococci from the nasal passages of our nursing personnel. The majority of cases are cleared with 5 days of treatment." 1

routine in sinusitis, rhinitis and nasopharyngitis

"Intranasal and sinus infections have been found to disappear promptly . . . helps to combat the associated nasopharyngitis." 2

■ wide bactericidal range ■ negligible bacterial resistance ■ no cross-sensitization or bacterial cross-resistance to systemic agents ■ low sensitization rate ■ no irritation, no stinging, no slowing of the ciliary beat ■ no interference with phagocytosis or healing.

FORMULA: FURACIN 0.02% with phenylephrine HCl 0.25% in an aqueous, isotonic solution of sodium salts and methylparaben.

SUPPLY: Plastic atomizer of 15 cc. for administration by either spray or drop. References: 1. Personal Communication to Eaton Laboratories, 1959. 2. Spencer, J. T., in Conn, H. F.: Current Therapy 1954, Philadelphia, W. B. Saunders Co., 1954, p. 130.

antibiotic-resistant staphylococci

THE NITROFURANS -a unique class of antimicrobials-neither antibiotics nor sulfonamides EATON LABORATORIES, NORWICH, NEW YORK



STERILE DISPOSABLE NEEDLES

for the benefits of disposability...

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EASY-ENTRY POINTS

smooth, drag-free penetration

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in the package—after filling—to the moment of injection

now in sizes to meet most parenteral needs manufactured, sterilized and controlled by

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FOR GREATER
LATITUDE
IN SOLVING
THE PROBLEM
HYPERTENSION
WITHOUT
SIGNIFICANT
POTASSIUM
DEPLETION

RAUTRAX, a combination of Raudixin with Ademol (flumethiazide)—the new, safe nonmercurial diuretic—controls all degrees of hypertension. Elimination of excess extracellular sodium and water is rapid and safe. 1-5 Potassium loss is less than with other nonmercurial diuretics; 1-3 and, in addition, Rautrax increases protection against potassium and chloride depletion during long-term management by including supplemental potassium chloride.

The dependable diuretic action of Ademol rapidly controls the clinical and subclinical edema often associated with cardiovascular disease. And after Rautrax has normalized the fluid balance, the normal serum electrolyte pattern is not altered appreciably by continued administration. Ademol also potentiates the antihypertensive action of Raudixin. In this way a lower dose of each component controls hypertension effectively and safely . . . with fewer side effects.

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RAUTRAX

RAUDIXIN (Squibb standardized whole root Rauwolfia Serpentina) ADEMOL (Squibb Flumethiazide) POTASSIUM CHLORIDE

To stop re-infection in vaginal trichomoniasis



THE WIFE IS ONLY HALF THE PATIENT

If treatment of vaginal trichomoniasis is to be effective, the role of the man as carrier and as cause of recurrence in the woman must be acknowledged and treated. "Since the transmission of T. vaginalis through coitus occurs more frequently than is recognized, measures of prevention should be used. The most effective is the mechanical barrier."

To control the cycle of infection and re-infection in vaginal trichomoniasis, most physicians recommend the use of a prophylactic during coitus, 3-6 for a period of four to nine months after the end of the wife's treatment.

References: 1. Maeder, E. C.: Journal-Lancet 79:364 (Aug.) 1959. 2. Decker, A.: New York J. Med. 57:2237 (July 1) 1957. 3. Draper, J. W.: Internat. Rec. Med. 168:563 (Sept.) 1955. 4. Bernstine, J. B., and Rakoff, A. E.: Vaginal Infections, Infestations and Discharges. New York. The Blakiston Co., 1953. 5. Davis, C. H.: West. J. Surg. 63:53 (Feb.) 1955. 6. Karnaky, K. J.: J.A.M.A. 155:876 (June 26) 1954.

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the prophylactic with "built-in" sensitivity

The exquisite sensibility preserved by a RAMSES prophylactic encourages rigorous cooperation necessary from the husband.

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conveyances, and safeness of food and water supplies.

Vaccination against smallpox is of basic importance for international travelers. Both citizens and aliens entering the United States (except persons coming from exempt areas) must have an international certificate of small-pox vaccination, received within three years of arrival. Persons not properly immunized may be vaccinated by a quarantine officer, or released subject to further examination at their destination. If they have recently been in an infected area, they may be detained for medical observation for a period up to fourteen days.

Smallpox vaccination usually is not required for travelers who have been only in certain quarautine exempt areas, if they arrive on a conveyance that has touched only at those areas. (The exempt areas are Canada, the Islands of St. Pierre and Miquelon, Iceland, Greenland, the West Coast of Lower California, Cuba, the Bahama Islands, the Canal Zone, the Bermuda Islands, the British Virgin Islands, and the Islands of Aruba and Curacao.)

For personal protection it is recommended by the Public Health Service that individuals planning trips to an area where smallpox is epidemic should be successfully vaccinated, or revaccinated, within six months of arrival in the infected area.

Yellow Fever

Travelers who have been in a yellow fever infected area within six days of arrival at United States ports are required to present an international certificate of yellow fever vaccination received within six years of arrival. This requirement applies when the traveler is bound for the "yellow fever receptive area" in the southern part of the United States and its possessions. The nation has not had a yellow fever outbreak since 1905, but in several southern States and United States possessions the mosquito that transmits this disease is still present. The Public Health Service and state and local health departments are cooperating

in a mosquito control program at critical points.

Travelers who have been in a cholera infected area within five days of arrival at United States ports are required to present an international certificate of cholera vaccination received within six months of arrival.

International Certificate

In preparing to travel abroad where a passport is required, individuals receive the international certificates of vaccination form with the passport application. The form may also be obtained from travel agencies, transportation companies, local and state health departments, and offices of the Public Health Service, Department of Health, Education, and Welfare.

Detailed information on vaccination requirements and recommendations may also be obtained from those sources or from Public Health Service Publication No. 384 (revised 1959), "Immunization Information for International Travel," for sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. The cost is 30 cents.

Travel concluded on page 152a



"Miss Wilson, how would you like never having to worry about . . er . . ah . . doctor bills for the rest of your life?"

she can be ...



with a one week course of daily injections

Anergex-1 ml. daily for 6-8 days-usually provides prompt relief that persists for months.

Children with estima or asthmatic bronchitis show particularly dramatic response. In all age groups, reports on over 3,000 patients with all common allergic diseases have shown that over 70 per cent derived marked benefit or complete relief following a single short course of Anergex injections.

Anergex—a specially prepared botanical extract—is nonspecific in action; it suppresses allergic reactions regardless of the nature or number of offending allergens.

Anergex eliminates skin testing, long drawn-out desensitization procedures, and special diets. It has been effective even in patients who failed to respond to other therapeutic measures.

Effective in seasonal and nonseasonal rhinitis (pollens, dust, dander, molds, foods); allergic asthma; asthmatic bronchitis and eczema in children; food sensitivities.

Available; Vials containing 8 ml. - one average treatment course.

WRITE FOR REPRINTS AND LITERATURE

ANERGE

the new concept for the treatment of allergic diseases



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Patents Pending



Calendar of Meetings

A listing of important national and international medical conferences

APRIL

New York, N. Y. International Anatomical Congress, April 11-16. *Contact:* Dr. D. W. Fawcett, Dept. of Anatomy, Cornell University Medical College, 1300 York Avenue, New York 21, N. Y.

San Francisco, Calif. American College of Physicians, April 4-9. *Contact:* Mr. E. R. Loveland, 4200 Pine St., Philadelphia 4, Pa.

Nassau, Bahamas. Bahamas Medical Conference, April 1-14. *Contact:* Dr. B. L. Frank, P. O. Box 4037, Fort Lauderdale, Fla.

Chicago, Ill. Chicago Committee on Trauma, American College of Surgeons, April 27-30. Contact: Dr. John J. Fahey, 1791 W. Howard St., Chicago 26, Ill.

MAY

Geneva, Switzerland. World Health Assembly, May 3. Contact: World Health Organization, Palais des Nations, Geneva.

Rome, Italy. Congress of the International College of Surgeons, May 15-18. Contact: Dr. Max Thorek, 850 W. Irving Park Rd., Chicago, Ill.

Mexico City, Mex. Pan-American Medical Association Congress, May 2-11. Contact: Dr. Joseph J. Eller, 745 Fifth Avenue, New York 22, N. Y.

JUNE

Miami Beach, Fla. American Medical Association, Annual Meeting, June 13-17. *Contact:* Dr. F. J. L. Blasingame, 535 North Dearborn St., Chicago 10, Ill.

JULY

Stockholm, Sweden. International Congress Against Alcoholism, July 31-Aug. 5. *Contact:* Dr. Archer Tongue, Case Gare 49, Lausanne, Switzerland.

New York, N. Y. International Congress on Occupational Health, July 25-29. *Contact:* Dr. Leo Wade, 15 West 51st St., New York, N. Y.

Bahia, Brazil. Pan-American Tuberculosis Congress, July 10-14. *Contact:* Prof. Fernando D. Gomez, 26 de Marzo, 1065, Montevideo, Uruguay.

AUGUST

Basle, Switzerland. International Congress of Internal Medicine, Aug. 24-27. Contact: Secretariat, Sixth International Congress for Internal Medicine, 13, Steinentorstre, Basle, Switzerland.

SEPTEMBER

West Berlin. World Medical Association, Sept. 15-22. Contact: Dr. Louis H. Bauer, 10 Columbus Circle, New York 19, N. Y.

Honolulu, Hawaii. Pan-Pacific Surgical Association, Sept. 28-October 5. *Contact:* Dr. F. J. Pinkerton, Suite 230, Alexander Young Building, Honolulu 13, Hawaii.





lifesaving technique

for the unborn





includes high citrus intake

Abortion-prone mothers deliver live babies in nearly 9 out of 10 pregnancies

Reporting on 134 pregnancies in 100 habitual abortion patients, Javert* describes a management program that resulted in live deliveries in all but 16 pregnancies. The previous 95.2 per cent rate of spontaneous abortions was reduced to 11.9 per cent by his comprehensive regimen which includes a high citrus intake (supplying up to 350 mg. of vitamin C daily), supplemented by 150 mg. of ascorbic acid and 5 mg. of vitamin K daily. Javert believes these antihemorrhagic vitamins "serve as a 'never-leak' ... keeping physiologic decidual hemorrhage from becoming pathologic."

AVERAGE CITRUS

28 oz. orange or grapefruit juice

1 grapefruit

2 oranges

2 tangerines

½ grapefruit 1 orange

16 oz. orange juice

Florida Citrus Commission Lakeland, Florida

*Javert, C. T.: Obst. & Gynec. 3:420, 1954; Cf. Greenblan, P. B : Obst. & Gynec. 2:530, 1953.



MODERN THERAPEUTICS

New therapies and significant clinical investigations abstracted from other journals.

A Case of Subacute Bacterial Endocarditis Treated with Penicillin and Neomycin

"It is generally accepted that bactericidal antibiotics are needed for the treatment of subacute bacterial endocarditis. In this case the bactericidally synergic combination of penicillin and streptomycin, which is usually successful in the treatment of Str. fecalis endocarditis (Hunter, 1946; Cates, Christie, and Garrod, 1951; Robbins and Tompsett, 1951), was inapplicable owing to the high degree of resistance of the organism to streptomycin. The less complete bactericidal action of penicillin proved inadequate. The alternative combination of penicillin and neomycin proved to be completely bactericidal, and the clinical result justified the confidence placed in it. It is possible that a shorter course might have effected a cure, with less or no damage to hearing, but when a patient has relapsed after one long and apparently successful course, there is natural reluctance to curtail another.

A minor feature of interest in this case is the origin of the infection. Str. fecalis endocarditis occurs in young women as a complication of septic abortion and in older men as a consequence of infection of the urinary tract. In this patient dilatation of a urethral stricture precipitated it, as in Case 1 of the series described by Robbins and Tompsett (1951). This is evidently a hazardous procedure in men with heart valves predisposed to infection, and, should it have to be repeated in our patient,

protection with a bactericidal antibiotic, possibly vancomycin in preference to further neomycin, will have to be provided."

C. W. H. HAVARD, LAWRENCE P. GARROD, PAMELA M. WATERWORTH Brit. Med. J. (1959), I:689

Blood Pressure Studies in Rural and Urban Groups in Delhi

"The blood pressures of 1,132 individuals of low- and 224 individuals of high-income groups were studied. The variation of blood pressure with age and body weight was determined.

In the case of the low-income groups there was practically no rise in systolic and diastolic blood pressures with age, except a constant small rise among women, but there was a marked rise in both systolic and diastolic blood pressures with increase in body weight.

In the high socio-economic groups the body weight and blood pressures, systolic and diastolic, were higher in every decade than in the low-income groups. There was a consistent rise in blood pressures with both age and body weight.

There was a steady weight gain with age among the upper classes that was strikingly absent among the rural and industrial groups.

When compared to Western figures the lowincome groups in every decade had lower sys-

Continued on page 156a

NOW a truly definitive answer to an ever-present problem

Tassette

the safe and sanitary

menstrual cup

You can prescribe Tassette with full assurance that your patient will find a safe, effective and completely acceptable answer to her menstrual control problem. Tassette, made of soft pliable rubber fits anatomically at the mid point of the vaginal wall and acts as a catch basin for the menstrual flow (see anatomical drawing). It is easily folded, needs no inserter, and can be simply emptied and replaced as needed. Tassette requires no measurements or fitting, and can be worn with complete comfort at all times.

Tassette permits your patient to swim, dance and engage in any activity because it catches the flow and seals it off completely. Thus there is no odor or possibility of leakage or staining as may occur during periods of heavy flow when tampons are used. There is no danger of chafing, irritation or infection, and no belt is required, as with ordinary sanitary napkins.

Tassette has many medical applications other than its use as a menstrual cup. During the intermenstrual period it provides the most satisfactory and safe method for collecting vaginal, cervical or uterine secretions for diagnostic purposes. Tassette has also been used to insure against leakages in vesico-vaginal fistula.

Modern internal menstrual control is now accepted by the medical profession and Tassette is widely recommended by gynecologists in place of sanitary napkins and tampons. In order to acquaint you with Tassette this special offer is made: Send \$3.50 (reg. price \$4.95) for one Tassette with complete directions, postage prepaid. Tassette guarantees satisfactory use for two years or your money back.





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tolic pressures; the diastolic pressures, however, were lower only after the age of 40. The high-income groups had slightly higher systolic pressures up to age 30, after which the American pressures were higher. The diastolic readings were higher throughout among the better-class Indians. The incidence of blood pressures over 140/90 was remarkably low among all classes of Indians in all decades.

The conclusion is drawn that the lower blood pressure among the low-income groups was the result of lower body weight and an absence of the weight gain with age, which occurs among Western peoples who are economically better off. We have also not been able to find in this series the sharp acceleration of blood pressure rise, particularly among women, reported by Master et al., after age 40. This

again may be due to the absence of weight gain with age in the low socio-economic groups.

The incidence of true hypertension in the low socio-economic groups was 0.17 percent and in the high-income group 2.5 percent."

S. PADMAVATI and SAVITRI GUPTA Circulation (1959) Vol. XIX, No. 3, Pp. 403-4

Ophthalmic Use of Tetrahydrozoline Hydrochloride

For the satisfactory management of conjunctivitis, adjunctive local preparations should have: (1) optimum activity at low concentration; (2) few or no side-effects; (3) prolonged stability, and (4) no masking or increased likelihood of secondary infection. A pressor Continued on page 162a



new and unique

'tetracycline therapy/new antifungal protection in better-tasting aqueous forms

New Mysteclin-F provides antifungal protection plus antimicrobial efficacy. Its outstanding antifungal agent, Fungizone, successfully forestalls monilial overgrowth. Its broad spectrum tetracycline

base brings unsurpassed antibiotic pressure to bear against a wide variety of bacterial infections. Thus, even when high or prolonged dosage is required, new Mysteclin-F may be prescribed with confidence. mystecim-f

New Mysteclin-F, unlike bitter-tasting for aqueous drops phosphate-potentinystatin, has the added advantage of a pleasing, mixed fruit flavor. It is certain amphotericin B SQUIBB to win patient cooperation [Fungizone] per cc.). Squibb Quality - the Priceless Ingredient

without coaxing. Your very young patients, so susceptible to fungal superinfections, are foremost candidates for the convenient syrup or drop form of new Mysteclin-F especially designed for children.

Supplied: Mysteclin-F For Syrup (125 mg. phosphate-potentiated tetracycline [HCl equivalent] and 25 mg. amphotericin [Fungizone] per 5 cc. teaspoonful). Mysteclin-F For Aqueous Drops (100 mg. for syrup ated tetracycline [HCl equivalent] and 20 mg.



completely emulsifies and washes off excess oil from the skin. penetrates and softens comedones, unblocks pores and facilitates removal of sebum plugs.

removes papule coverings and permits drainage of sebaceous glands.

Patients like Fostex because it is so easy to use. They simply wash acne skin 2 to 4 times a day with Fostex Cream or Fostex Cake, instead of using soap.

Fostex contains Sebulytic®,* a combination of surface-active wetting agents with remarkable antiseborrheic, keratolytic and antibacterial actions...enhanced by sulfur 2%, salicylic acid 2%, and hexachlorophene 1%.

*sodium lauryl sulfoacetate, sodium alkyl aryl polyether sulfonate and sodium dioctyl sulfosuccinate.

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FOSTEX CREAM, in 4.5 oz. jars. FOSTEX CAKE, in bar form.

Fostex Cream and Fostex Cake are interchangeable for therapeutic washing of the skin. Fostex Cream is approximately twice as drying as Fostex Cake.

Fostex Cream is also used as a therapeutic shampoo in dandruff and oily scalp.

Write for samples.

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new oral prothrombin depressant

control at every stage of anticoagulant therapy rapidity of induction and recovery time predictability of initial and maintenance dosages Stability of therapeutic prothrombin levels during maintenance therapy reversibility of anticoagulant effect with vitamin K1 preparations...rapid return to therapeutic levels on remedication

Well tolerated and relatively nontoxic agranulocytosis or leukopenia yet observed -chromaturia infrequent and transient.

Single daily dose convenience

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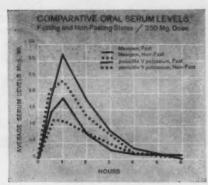
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MAXIMAL ABSORPTION Acid stable, extremely soluble. MAXIPEN is rapidly absorbed from the gastrointestinal tract.

MAXIMAL BLOOD LEVELS Substantially higher than potassium penicillin V (higher levels than with intramuscular procaine penicillin G). You get injection levels with a tablet.



*Based on 3294 individual serum antibiotic determinations. Complete details on request.

MAXIMAL FLEXIBILITY May be administered without regard to meals. However, highest absorption is achieved when taken just before or between meals.

MAXIMAL ORAL INDICATIONS Indicated in infections caused by streptococci, pneumococci, susceptible staphylococci, and gonococci, including:

pneumococcal pneumonia gonorrhea tonsillitis laryngitis otitis media streptococcal pharyngitis

impetigo susceptible staphylococcal abscesses (with indicated surgery) cellulitis lymphangitis pyoderma

Also prophylactically in secondary infections following tonsillectomy, dental extractions, other surgical procedures.

Dosage: For moderately severe conditions, 125 to 250 mg. three times daily. For more severe conditions, 500 mg. as often as every four hours around the clock.

Note: To date, MAXIPEN has not shown less allergic reactions than older oral penicillins. Usual precautions regarding administration should be observed.

Supplied: MAXIPEN TABLETS, scored, 125 mg. (200,000 units) bottles of 36; 250 mg. (400,000 units) bottles of 24 and 100. MAXIPEN FOR ORAL SOLUTION; reconstituted each 5 cc. contains 125 mg., in 60 cc. bottles.

Triumph of Man Over Molecule Designed by Pfizer for Maximal Benefit



New York 17, N.Y. J. B. Roerig and Company Division, Chas. Přizer & Co., Inc. Science for the World's Well-Being™ amine, tetrahydrozoline (Visine) hydrochloride has shown optimum activity at a low concentration. It is understood to be an effective and well-tolerated ophthalmic decongestant. The author's report covers its use in the short- and long-term management of conjunctivitis of varying etiology in more than eleven hundred patients. The dosage used was one drop in each eye two to four times daily. The duration of therapy ranged from two weeks to two months. Dr. Menger found Visine to be effective in cases of allergic conjunctivitis, but its efficacy was enhanced by the simultaneous oral administration of antihistamines. Effective decongestant action was obtained by 97 percent of the group. For the patients with various forms of chronic conjunctivitis, the drug proved similarly beneficial, 89 percent of the group having obtained a good or fair response.

More than 100 patients with cataracts were treated with tetrahydrozoline over a period of two years; and it is reported that in no instance did intraocular pressure increase or any significant change occur in the development of the cataracts. Side-effects were limited in the entire group studied to a mild stinging sensation in two percent of the patients.

HAROLD C. MENGER, M.D. J. A. M. A. (1959), V. 170, No. 2, P. 178

Cow's Milk and Infant Health

Sixty-two infants born November, 1957, to April, 1958, inclusive, and fed full-strength cow's milk from within the first five weeks of life were followed up at approximately five months of age, and their health was evaluated.

The sample consisted of 85% of all possible

Continued on page 164a



TIME-MATCHED



COMBINATION

BUTIBEL combines two synchronous components—belladonna and BUTISOL.®

Unlike poorly matched belladonna-phenobarbital combinations, BUTIBEL neither builds up a sedative burden nor leaves the spasm unprotected.

Rather, BUTIBEL, with its time-matched components, gives full, uninterrupted antispasmodic and sedative action.

BUTIBEL: belladonna extract...15 mg. and BUTISOL Sodium®...15 mg.

BUTIBEL Tablets · Elixir · Prestabs® Butibel R-A (Repeat Action Tablets)



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in hypertension first rule out pheochromocytoma

Readily performed in the office unassisted, the reliable diagnostic test for pheochromocytoma with Regitine should be routine in hypertension. A potent antiadrenergic, Regitine is also valuable therapeutically in hypertensive crises and in peripheral vascular disease. A concise, illustrated booklet, the test with regitine for pheochromocytoma, is available at no charge. For your copy write: Medical Service Division, CIBA, Summit, New Jersey. Supplied: Ampuls (for intramuscular or intravenous use in diagnosis), each containing 5 mg. Regitine methanesulfonate in lyophilized form. Tablets for oral administration (white, scored), each containing 50 mg. Regitine hydrochloride.



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CIBA

UMMIT, NEW JERSE



cases. The reasons why the remaining 15% could not be followed up are cited.

An incidence of feeding changes advised by other persons (general practitioners, baby health centre sisters and chemists) is reported.

The result of the 62 medical assessments gave no reason to change the feeding of full-strength cow's milk to infants up to five months of age provided extra water is offered in hot weather.

R. A. MACMAHON, JOAN M. WOODHILL and
R. M. GIBSON
The Med. J. of Australia (1959), Vol II,
No. 15, P. 519

Hydroflumethiazide

The effectiveness of one compound derived from benzothiadiazine as a diuretic and in potentiating the action of ganglion-blocking agents has led to a search for others derived from the same source; one of the most promising is hydroflumethiazide. The diuretic action was studied in three normal persons in whom food and fluid intake was the same immediately before and during the test. There was clearly a diuresis, accompanied by striking increases in sodium and chloride excretion, and variable but less marked increases in potassium excretion. Hydroflumethiazide was given to 12 patients with edema due to various forms of heart disease, and one patient with nephrosis. The dosage was 150 mg. of hydroflumethiazide twice daily. The response was compared with that obtained from another agent. Each drug was given for four-day periods with intervals between for equilibration. The action obtained from 150 mg, of hydroflumethiazide was equivalent to that of 500 mg. of the other agent. The maximum effect on diuretic action appeared to occur at about four hours and nine hours. In some cases the first peak was associated with a relatively greater increase in potassium excretion and a rise in the urinary pH. The diuresis lasted about 12 hours or Continued on page 166a



while she is planning her family,

she needs your help more than ever



the most widely prescribed contraceptive
WHENEVER A DIAPHRAGM IS INDICATED





NEW ESTROGEN APPROACH TO THE POSTMENOPAUSE

Menopausal symptoms are often intensified following the sharp drop in available endogenous estrogen during the early postmenopause.

At that time—when periods stop but symptoms continue—TACE is most valuable. It usually means a symptom-free adjustment to the postmenopausal state. How? TACE stores in body fat, releases slowly, evenly, in the same manner as a natural hormonal secretion. A normal course of TACE therapy is 30 or 60 days. But even after therapy stops, estrogenic activity continues, gradually tapers off, finally is exhausted in about 2 months.

Thus, sudden endometrial change doesn't occur, withdrawal bleeding is rare. Artificial stimulation and "estrogen dependence" are avoided. Complicated dosage adjustment is unnecessary. Finally, there are no "peak-and-valley" estrogenic effects.

You can observe this unique effect in your patients. Simply prescribe two TACE 12 mg. capsules daily for 30 days. A severe case may require an additional 30-day course.

THE WM. S. MERRELL COMPANY

New York . Cincinnati . St. Thomas, Ontario

to **NORMALIZE** bowel function

L. A.* Formula



It has been shown¹ that the colon resumes a more normal peristaltic pattern² when it is supplied with a stool of medium soft consistency of sufficient bulk,3 especially if the indigestible portion of that bulk consists primarily of hemicellulose. To provide smooth bulk—L. A. Formula effective, palatable, economical.

- 1. Dolkart, Dentler & Barrow, Ill. Med.J., 90:286, 1946
 2. Adler, Atkinson & Ivy, Am.J. Digest.Dis. 8:197, 1941
 3. Wozasek & Steigman, Am.J. Digest.Dis. 9:423, 1942
 4. Williams & Olmstead, Ann.Int. Med. 10:717, 1936
 5. Cass & Wolf, Gastroenterology, 20:149, 1952.
- 20:149, 1952.

"Abbreviation for the Latin "Levis Amplitudo", meaning smooth bulk.

YOUR PATIENTS WILL APPRECIATE THE MODEST COST!

made since 1932 by

BURTON, PARSONS & COMPANY Originators of

Fine Hydrophilic Colloids

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MODERN THERAPEUTICS—Continued

sometimes slightly longer. The author stated that the only untoward effect was epigastric pain complained of by two patients; therefore, taking the tablets with food is advisable. He further stated that hydroflumethiazide has no effect on the blood pressure of normotensive subjects, but in patients with malignant hypertension it appears to potentiate ganglion-blocking agents.

> C. R. BLAGG, M.D. Lancet (1959) V. 2, No. 7098, P. 311

Furazolidone in Diarrhoea

Fifty-eight patients suffering from diarrhoea due to a variety of causes were treated with a new preparation, furazolidone.

The results have shown that furazolidone is a convenient and valuable addition to the drugs available for the treatment of these conditions.

The possibility of the value of furazolidone for the treatment of amoebiasis is being pursued.

> A. MASSA, M.D. Brit. Med. J. (1959), No. 5159, P. 1063 Continued on page 168a

MEDICAL TEASERS

Answer to puzzle on page 45a

U	P	E		F	A	V	U	S		S	E	M	Т
S	Y	N		E	D	E	M	A		E	M	E	T
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										Y	E	A	S
	SSAHEMALEMO	S Y S I A N H A E T M A A X L Y E S M I O D	S YN S I D A NO R R H A S E T E M A R A X E S A M I C O D E	SYN SID ANOS RE HASE ETER MAR AXPR AXPR ESAM	SYN E SID L ANOSO REN HASE ETERO MAR L YTRO ESAME SAME SAME BIG TODE E T	SYN ED SID LA ANOSOM RENI HASE TEROP MAR LE AX PER LYTROI RIMS ESAME MICTA ODE EG	SYN EDE SID LAN ANOSOMA RENI HASE SETEROPT MAR LEA AX PERI LYTROID RIMS ESAME A MICTAB ODE EGL	SYN EDEM SID LANE ANOSOMA RENI D HASE SID ETEROPTE MAR LEAT AX PERIO LYTROID RIMS ESAME AN MIC TABO ODE EGLO	SYN EDEMA SID LANES ANOSOMA S RENI DA HASE SIF ETEROPTER MAR LEATA AX PERIOS LYTROID RIMS SA ESAME ANT MIC TABOO ODE EGLON	SYN EDEMA SID LANES ANOSOMA SA RENI DAN HASE SIFT ETEROPTERA MAR LEATA AX PERIOST LYTROID U ESAME ANTA MIC TABOO ODE EGLON	SYN EDEMA ES LANOSOMA SALANOSOMA SALANOSOMA SALENI DANO HASE SIFTI ETEROPTERA SALO TILLYTROID UT	SYN EDEMA EM SID LANES LI ANOSOMA SALT RENI DANO HASE SIFTIN ETEROPTERA O MAR LEATA SC AX PERIOSTIT LYTROID UTI RIMS SALO ESAME ANTALG MIC TABOO OL ODE EGLON GE	SYN EDEMA EMES LIR SID LANES LIR ANOSOMA SALTE RENI DANO HASE SIFTING ETEROPTERA OR MAR LEATA SCA AX PERIOSTITIL LYTROID UTIL RIMS SALO ESAME ANTALGI MIC TABOO OLO ODE EGLON GEN



painful breast engorgement prevented

Treatment of choice to suppress lactation. 1 Clinicians 2 have named TACE "... the most satisfactory drug for use at delivery in the suppression

Re-engorgement almost never occurs. In over 3,000 patients studied,1.3 only 3 cases of refilling were reported.

Withdrawal bleeding rare,1.3 because TACE, stored in body fat, is released gradually, even after therapy is discontinued.

Available . . . 12 mg. and 25 mg. capsules

prevent hemorrhage due to uterine atony TACE

with Ergonovine

1. Bennett, E. T. and McCann, E. C.: J. Maine M. A. 45:225. 2. Eichner, E., et al.: Am. J. Obst. & Gynec. 6:511. 3. Nulsen, R. O., et al.: Am. J. Obst. & Gynec. 65:1048.



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augments therapy with excellent results

pHisoHex, containing 3 per cent hexachlorophene, provides continuous antibacterial action against infection for patients with acne. Much more effective than soap in cleansing, it deposits hexachlorophene ". . . as a semi-permanent film on the skin of frequent users." When the regular use of pHisoHex was added to the standard treatment for acne, "no patient failed to improve."

1. Smylie, H. G.; Webster, C. U., and Bruce, M. L.: Brit. M. J. 2:606, Oct. 3, 1959. 2. Hodges, F. T.:

uthrop LABORATORIES
New York 18, N. Y.

Epidemiology of "Sudden, Unexpected, or Rapid" Deaths in Children

A study was made of 249 children over the age of 7 days who died in Sheffield during the years 1949 to 1956. During these seven years the number of deaths from disease with symptoms of less than 48 hours duration appeared to remain constant, and possibly increased relative to other diseases.

The proportion of rapid deaths from disease of longer standing appeared to remain constant up to the age of a year. Over that age rapid death became less common.

Death face-down in a pillow showed no particular age distribution. Of the deaths 120 occurred at home, 13 in an ambulance, and 116 in hospital. Rapid deaths appeared to be both absolutely and relatively more common in the winter than in the summer months of the year.

While the total number of deaths varied little on different days of the week, there appeared to be a greater tendency for deaths to occur at home at the week-end, and ambulance or hospital on a week-day.

> JOHN L. EMERY, M.D., D.C.H. Brit. Med. J. (1959), No. 5157, P. 925

The Use of Bisacodyl in Proctology

The proctologist is particularly interested in laxative compounds since preparation for a proctosigmoidoscopy requires a complete cleansing of the tract without irritation of the mucous membrane. Reports on the use of bisacodyl (Dulcolax) led the author to conduct his own clinical evaluation. Eighty-six patients comprised the group studied: the diagnoses included pruritus ani, fistula, fissures, hemorrhoids, and polyps. Dulcolax was administered in a variety of tablet-suppository combinations. The tablets were taken on the night preceding the examination and suppositories were administered on the morning of the examination. The patients having received one suppository and

Continued on page 170a

EFFECTIVE THERAPY FOR TINEA PEDIS (ATHLETE'S FOOT) AND OTHER RINGWORM INFECTIONS

ORAL ANTIFUNGAL AGENT



Before treatment, T. rubrum infection.



After 2 months' treatment with GRIFULVIN.

typical response of tinea pedis to GRIFULVIN

- · itching and burning relieved in 2 to 6 days
- vesicles and scaly patches disappear completely; cultures and KOH scrapings usually become negative in 2 to 6 weeks
- · side effects are rare, mild and transitory

Average dose: 250 mg. q.i.d. Adjunctive treatment with topical keratolytic agents will aid in eradicating the fungi from the skin of the feet.

Supplied: 250 mg. scored tablets, colored aquamarine, imprinted McNEIL, bottles of 16 and 100.

Blank, H.; Smith, J. G., Jr., Roth, F. J., Jr., and Zaias, N.: J.A.M.A. 171:2168 (Dec. 19) 1959.

MCNEIII MONEIL LABORATORIES, INC . PHILADELPHIA 32, PA.

MODERN THERAPEUTICS—Continued

one tablet showed the greatest number of excellent results, the figure being 84 percent. Excellent results were shown in 76 percent of the group who received one suppository only. It is believed that a poorer result was shown in the group receiving two suppositories (30 percent) because of the presence of a slight mucosal alteration. Bisacodyl proved to be a gentle yet effective laxative. The suppository form seemed more practical where complete emptying of the intestine was essential. Administration of the drug circumvents the use of the enema which is always a tedious burden for the patient who was required formerly to enter a hospital for preparation, if means were not available outside the hospital. Not only was intestinal evacuation found to be thorough and complete, but a small dose was found to be fully adequate. Also, the requirement of a second examination was less frequent with the use of bisacodyl. The effectiveness of the drug would seem to extend its field of usefulness.

REGINALD ARCHAMBAULT, M.D. Canadian Medical Assn. Journal (1959), V. 81, No. 1, p. 28

The Bioflavonoids and the Common Cold

That millions are effected yearly by the common cold is a fact that has long been recognized; its viral origin has more recently come into general acceptance. In the common cold, the pathway of viral invasion is similar to that observed in numerous types of viral infection. The destructive affinity of influenza virus for the capillary wall fluids finds explanation in its enzymic activity. Influenza virus particles act in an enzymic fashion on specific receptors of a mucoprotein nature and destroy its protective properties. Capillary permeability is increased. Initially, the small blood vessels, capillaries and precapillary arterioles are damaged, thus facilitating the proliferation and spread of viral particles. Investigation has indicated that the water-soluble bioflavonoids exert

Continued on page 172a



CHRONIC BRONCHITIS. CHRONIC ASTHMA AND EMPHYSEMA . . . BUILD YOUR PROPHYLACTIC REGIMEN AROUND ORAL

BETTERS BREATHING . . FORESTALLS THE CRISIS

Choledyl, the choline salt of theophylline, improves pulmonary function, betters breathing, forestalls the crisis, is basic in any prophylactic regimen. A pure bronchodilator, Choledyl is free of sedative and sympathomimetic effects...produces higher theophylline blood levels than does oral aminophylline... is not likely to cause gastric irritation or drug fastness... is excellent for long-ferm use. or drug fastness... is excellent for long-term use.
Usual adult dose: 200 mg. q.i.d.



Proven

in over five years of clinical use

Effective

FOR RELIEF OF ANXIETY AND MUSCLE TENSION

Unusually Safe

Does not interfere with autonomic function
Does not impair mental efficiency,
motor control, or normal behavior
Has not produced hypotension,
agranulocytosis or jaundice

Miltown

Supplied: 400 mg. scored tablets, 200 mg. sugar-coated tablets.

WALLACE LABORATORIES / New Brunswick, N. J.

CM-1413

a protective influence against the destructive effects of bacterial polysaccharides and leukotaxine upon the mucin-like substance of the capillary wall; some of them provide protection against viral invasion. The author reports his experience with the use of a water-soluble citrus bioflavonoid compound and vitamin C for the treatment of 176 cases of the common cold. Capsules were given every four hours; a total of 2.4 Grams of bioflavonoids and the same amount of vitamin C were administered in a 24-hour period. In 160 instances, the response was prompt. When uncomplicated by bacterial involvement, a complete abatement of symptoms occurred in 24 to 72 hours. In smaller quantities, the same bioflavonoid compound was given prophylactically to 62 patients known to be extremely susceptible to upper respiratory infections. The author also states that during the test period, 22 patients were completely free of an attack and the remainder of the group had only one episode of "cold" each.

I. J. SOBEL, M.D. Journal of the Medical Society of New Jersey, (1959), V. 56, P. 625

Prochlorperazine in the Treatment of Alcoholism

Prochlorperazine has been reported to be effective in a variety of psychiatric disorders, anxiety and tension states, manic excitement, and behavior problems, and has been shown to have effective and prompt antiemetic action.

Continued on page 174a





... for the Painless Treatment of WARTS and CORNS



AN ETHICAL PRODUCT - PROMOTED ONLY TO PHYSICIANS

Completely painless; highly effective. Vergo acts without the inconvenience and discomfort to the patient which is associated with some other methods, and without scars, burns, blisters, or mess. Active ingredients: "Pancin" (specially prepared from calcium pantothenate, ascorbic acid and starch).

Samples and literature on request





METRETON TABLETS

regardless of place, regardless of time... effective Rx for food sensitivity—rapidly clears urticaria due to food allergies



There have been no published reports of serious side-effects. Because of the author's interest in the treatment of alcoholic patients, he undertook a study of the effects of prochlor-perazine (Compazine) at the Alcoholism Clinic at the West Jersey Hospital. The drug was given to 46 patients with severe chronic alcoholism of five to ten years' duration. While the dose was adjusted to the individual patient, the most common dosage was 10 milligrams three times a day.

The duration of therapy for about onefourth of the patients was six to ten months; for another fourth, the time was one to two months, and the remainder were treated only during the acute phase of alcoholism. The author states that prochlorperazine proved to be of most benefit in the treatment of the acute phase of alcoholism. Of 27 patients acutely ill as a result of spree drinking, 20 responded favorably, and six, satisfactorily. Only 29 of the 46 patients continued treatment long enough to evaluate the effect of the drug on their chronic symptoms. Of these, ten responded favorably, and 14 responded satisfactorily. Side-effects, on the whole, were mild. The author concludes, not only for the patient, but for the physician who treats him, prochlorperazine is an effective agent for the control of psychomotor agitation and retching of acute alcoholism. Further, in postalcoholic states, the drug relieves anxiety and tension, thereby reducing the desire for alcohol, improving appetite and sleep patterns, and facilitating the psychotherapeutic relationship.

GEORGE A. ROGERS, M.D.

J. of the Med. Soc. of N. J. (1959), Vol. 56, No. 5

Continued on page 176a

FOR THE

"BALLOON HEAD" COLDS



EFFECTS EXTEND TO DEEP-SEATED NASAL CONGESTION "Many (patients) were surprised that a tablet could result in such pronounced improvement of their congested nasal passages."

BRIGHTENS MOOD — PRODUCES A PLEASANT FEELING OF "CLEARED HEAD AND MIND" "Our patients reported a feeling of well-being which

accompanied the increased ability to breathe freely."

Formula: Timed-Release Tablets: chlorprophenpyrid-

amine maleate 4 mg., phenindamine tartrate 24 mg., phenylpropanolamine hydrochloride 50 mg. Delicious Lemon-Flavored Elixir: One-quarter strength Dosage: Tablets: Adult Dose: One tablet every 8 hours

Elixir: Adult Dose: Two teaspoonfuls every 3 or 4 hours. Children: Six years and over, one teaspoonful every 3 or 4 hours. Under six years according to age and weight.

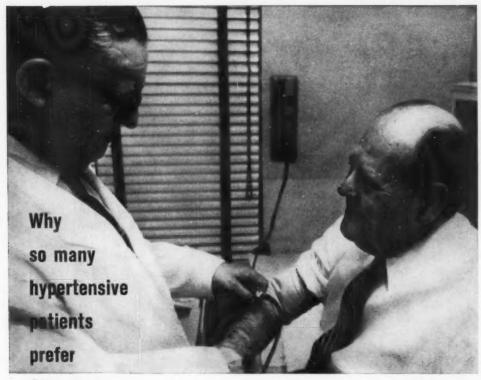
1. Schwartz, T. A., and Slasman, W. H.: E.E.N.T. Monthly 38:045, 1959.

NOLAMINE

the Oral Nasal Decongestant

that normalizes the mood

CARNRICK . Newark 4, New Jersey



Singoserp:

It spares them from the usual rauwolfia side effects

FOR EXAMPLE: "A clinical study made of syrosingopine [Singoserp] therapy in 77 ambulant patients with essential hypertension demonstrated this agent to be effective in reducing hypertension, although the daily dosage required is higher than that of reserpine. Severe side-effects are infrequent, and this attribute of syrosingopine is its chief advantage over other Rauwolfia preparations. The drug appears useful in the management of patients with essential hypertension."*

*Herrmann, G. R., Vogelpohl, E. B., Hejtmancik, M. R., and Wright, J. C.: J.A.M.A. 169:1609 (April 4) 1959.



(syrosingopine CIBA)

First drug to try in new hypertensive patients

First drug to add in hypertensive patients already on medication

Supplied: Singoserp Tablets, 1 mg. (white, scored); bottles of 100. Samples available on request. Write to CIBA, Box 277, Summit, N. J.

#/2697HB

Complete information available on request.



The Management of Acne

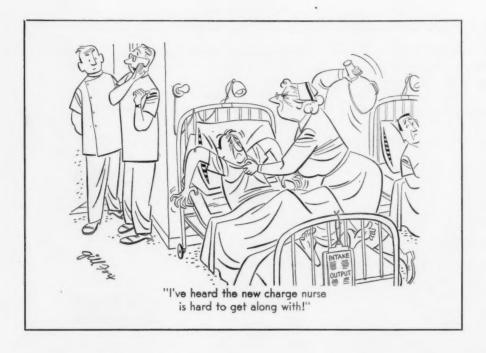
Acne, while not endangering life, is emotionally disturbing to the individual especially since it is believed by many to be a manifestation of unhealthy personality traits. Successful control of the skin lesions is an important accomplishment, and topical therapy remains the primary method of treatment. Recently, increased attention has been directed to the role of antiinfectious agents. This is consistent with the principle that the disease has susceptibility to infection, or a host tendency to inflammatory reaction. A new preparation containing dispersible sulfur, zinc sulfate, zinc oxide, and a new antiseptic agent, bithionol (Actamer), has been investigated clinically. According to a recent report, bithionol shows potent bacteriostatic activity against common bacterial and some fungal skin contaminants when applied in low concentration: it is not irritating or sensitizing, and permits a cumulative adherence of residual bithionol to the skin. Accord-

ingly, 373 patients were treated with Acnederm, a combination of bithionol, dispersible sulfur, zinc sulfate and zinc oxide in a nongreasy flesh-tinted lotion base. Three hundred six of the patients had acne vulgaris, and the remainder, rosacea, seborrheic dermatitis, seborrhea oleosa facialis, tinea corporis, and tinea versicolor. After thorough cleansing, Acnederm was applied to the affected areas several times daily and at bedtime. The author concludes that the results were exceptionally favorable. Cases of long standing responded well, and difficult problem cases that had not vielded to other medication did well on Acnederm. It is believed that Acnederm represents the first instance of the use of bithionol as a component of acne medication. Its safety and tolerance commend it for this use. No sideeffects were noted.

MEYER L. NIEDELMAN, M.D.

Am. Practitioner (1959), V. 10, No. 6, P. 1001

Continued on page 180a





GASTRITIS

a pathological entity histologically demonstrable



NORMAL GASTRIC MUCOSA



CHRONIC GASTRITIS
Reversible. Glandular pattern, muscularis well pre-

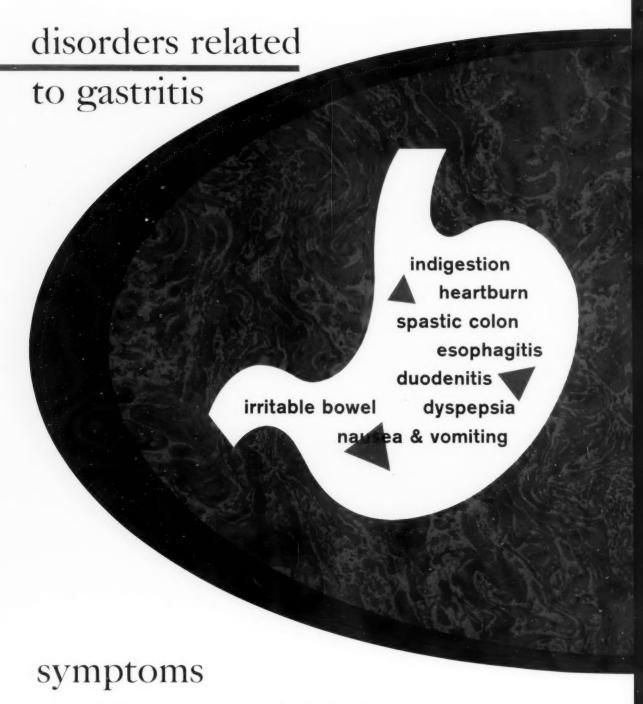


CHRONIC GASTRIT'S Reversible. Irregular dis tribution of glames. Earl intestinalization of surface apithelium. Disruption



CHRONIC GASTRITIS
Irreversible. Considerable
distortion of glands. Mu
cous cells indicate conversion to colonic-type tissue
Fragmentation of musicularis.

Microscopic views of gastric biopsies, courtesy of E. Deutsch, M.D., originally published as part of study, Chronic Castriels, Dautsch, E., and Christian, H. J.: J.A. M.A., 169:2012 (Apr. 25) 1959.



Pain - Food - Pain—as opposed to Pain - Food - Relief in peptic ulcer
Persistent, generalized upper abdominal pain—as opposed to localized pain of peptic ulcer
Bloating, sensation of fullness when only a small amount of food has been ingested
Possible severe weight loss—40 to 80 pounds

treatment for gastritis

OXAINE*

Oxethazaine in Alumina Gei, Wyeth

containing a gastric mucosal anesthetic

an original development, result of 5 years'

research and clinical trial

Oxame is indicated for many gastric disorders, such as gastritis, which are not totally managed by diet, antacids and anticholinergics.

As reported in J.A.M.A., Oxaine brought *complete* relief to 96%, partial relief to 4%, of 92 patients suffering substernal pain and upper abdominal distress.

Deutsch, E., and Christian, H.J.: J.A.M.A. 169:2012 (Apr. 25) 1959.

Oxaine provides sustained anesthesia over many hours, unaffected by ebb and flow of gastric contents.

Oxethazaine, the mucosal anesthetic in Oxaine, is 4000 times more potent topically than procaine. Safe, not a "caine." Only two known cases of sensitivity (glossitis) occurred in extensive clinical trials.

Easily administered, simple dosage regimen—just 1 or 2 tsp. 4 times daily, 15 minutes before meals and at bedtime. Bland, noncloying over long-term administration.

*Trademark

when the sequence of symptoms spells



PALN FOOD PALN

new

OXAINE*

Oxethazaine in Alumina Gel, Wyeth

a mucosal anesthetic for

GASTRITIS

Description: Each 5 cc. teaspoonful contains 10 mg. of oxethazaine [N,N-bis-(N-methyl-N-phenyl-t-butyl-acetamido)-beta-hydroxyethylamine] in alumina gel.

Dosage: Usual dosage is 1 or 2 teaspoonfuls 4 times daily, 15 minutes before meals and at bedtime.

Do not exceed recommended dosage.

Supplied: Bottles of 12 fluidounces.

Limitations: In case of overdosage, dizziness, faintness or drowsiness may be experienced by some patients. Constipation may be aggravated by therapeutic doses of Oxaine, but can be mitigated by adequate fluid intake and use of dietary roughage or a mineral oil preparation.

The possibility of gastrointestinal carcinoma should be considered in patients with protracted or recurrent indigestion.

Wyeth Laboratories Philadelphia 1, Pa.

IMPROVING ON NATURE

One of nature's most abundant gifts, oil is of more value to man because he has processed it to meet his specific requirements. In the treatment of hypothyroidism, Proloid, the only improved but complete thyroglobulin, offers similar evidence of man's ingenuity in improving on nature.

An exclusive double assay assures unvarying potency and a uniform clinical response from prescription to prescription. To restore patients to a euthyroid state—safely and smoothly—specify Proloid. Three grains of Proloid daily is the average dosage for patients with mild forms of hypothyroidism.

STANDARD OIL CO. (N. J.)

PRO GP 01

dependable safe economical

PROLOID°





for these patientsrapid, reliable control of edema with the organomercurial

MERCUHYDRIN

SODIUM

THE PATIENT IN ACUTE FAILURE

Its rapid action in relieving tissue inundation makes MERCUHYDRIN the choice of many physicians for initial immediate relief of the "drowning" heart. Experience has shown that, in many instances, only an injectable organomercurial can adequately meet such an emergency. After the patient comes out of failure, it may be desirable to administer MERCUHYDRIN periodically together with an oral diuretic.

THE PATIENT WITH IMPAIRED INTESTINAL ABSORPTION

Because edematous distention of the gastrointestinal tract frequently complicates congestive heart failure¹ and impairs absorption, exclusive initial use of oral diuretics may not be reliable. Administration of MERCUHYDRIN Injection in these patients assures adequate diuresis, relieves the edema and improves absorption of oral diuretics used subsequently.

THE PATIENT WHOSE RESPONSE IS INADEQUATE

In patients who develop resistance to, or who do not respond adequately to thiazides or other oral diuretics, increased diuresis can be achieved through the *additive* effect obtained by combining MERCUHYDRIN with a nonmercurial.² This greater effectiveness is due to the fact that pharmacologically they act on different enzyme systems.³

THE GOUTY PATIENT

MERCUHYDRIN is particularly useful in decompensated patients with gout. In such patients, administration of thiazides, because they may cause retention of uric acid, can precipitate an attack of hyperuricemia.⁵

THE DIGITALIZED CARDIAC WHO IS LOSING TOO MUCH K

K loss has been shown to be considerable with chlorothiazide^{6,7}—apparently sufficient in digitalized patients in some instances to induce digitalis intoxication.⁴ Diuresis with MERCUHYDRIN does not result in excess K output. MERCUHYDRIN may be used alone or with chlorothiazides to produce a more nearly normal electrolyte excretion⁷—consequently with a greatly reduced possibility of digitalis intoxication.

THE PATIENT ON SPIROLACTONE DIURESIS

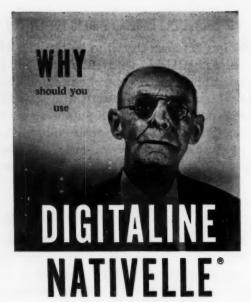
Because spirolactone diuretics may take 4 or 5 days to initiate adequate diuresis, simultaneous use of another diuretic is advised at onset of therapy. MERCUHYDRIN may advantageously be administered along with spirolactone to provide the diuresis needed for rapid relief of the edematous patient.

Formulation: There are 39 mg. of mercury as the organic molecule meralluride and 48 mg. of theophylline in each cc. of MERCUHYDRIN Injection.

Supplied: MERCUHYDRIN-1 cc. ampuls, boxes of 12, 25, and 100; 2 cc. ampuls, boxes of 12, 25, and 100; 10 cc. vials, boxes of 6, 25, and 100.

Bibliography: (1) Paul, O., et al.: A.M.A. Arch. Path. 64:363, 1957. (2) Council on Drugs: J.A.M.A. 172:240 (Jan. 16) 1960. (3) Pitts, R. F., et al: J. Pharmacol. & Exper. Therap. 123:89, 1958. (4) Wilkins, R. W.: J.A.M.A. 167:801 (June 14) 1958. (5) Healey, L. A.; Magid, G. J., and Decker, J. L.: New England J. Med. 261:1358 (Dec. 31) 1959. (6) Questions and Answers: J.A.M.A. 172:115 (Jan. 2) 1960. (7) Heineman, H. O.; DeMartini, F. E., and Laragh, J. H.: Am. J. Med. 26:853, 1959.





the original crystalline digitoxin

BECAUSE it assures you of . . .

Flexibility of Administration-Digitaline Nativelle provides for rapid oral digitalization within a convenient range of tablet strengths. When desired the intravenous route, or the new intramuscular injection may be employed. The essentially non-alcoholic intramuscular formula, unlike most alcoholic menstrua, is virtually painless.

Efficiency of Action - Digitaline Nativelle is pure digitoxin. It is rapidly, completely and uniformly absorbed-neither too fast nor too slow-providing a steady and predictable action upon the heart muscle.

Dependability of Performance-Digitaline Nativelle [digitoxin] is the pure active glycoside insuring optimum range of cardiotonic activity. Digitoxin is a drug of choice when a purified digitalis product is desired.

Adequate Margin of Safety—Digitaline Nativelle provides virtual freedom from annoying local side effects which may occur with the galenicals, and its margin of safety is unexcelled by any other purified preparation. A product of Nativelle, Inc.

E. Fougera & Co., Inc.

FOUR-FRA =

Hicksville, Long Island, N. Y.

Prochlorperazine and Irradiation Sickness

In a controlled trial involving 45 patients receiving therapeutic irradiation, prochlorperazine has been found significantly more effective in relieving radiation sickness than pyridoxine or inert tablets.

The following conclusions may be drawn from the small series described: (1) Prochlorperazine is more effective in relieving the toxic symptoms of irradiation than pyridoxine or an inert tablet. (2) In the dosage of prochlorperazine used (10 mg. t.d.s.) there were no material side-effects; marked drowsiness as occurs with so many other antiemetic drugs was not seen. (3) For maximum benefit it is best to begin giving prochlorperazine with the first exposure to irradiation, or at least as soon as possible after the onset of symptoms.

> M. J. SOLAN, M.B., B.S. Brit. Med. J. (1959), No. 5159, P. 1068

Diuretic Effect of Hydroflumethiazide

A trial of a new non-mercurial oral diuretic, hydroflumethiazide, is reported. Seventeen out of twenty-one edematous patients responded well to doses of 200 or 400 mg. daily. Two patients showed no response, and in two others an initial response was not maintained; these four patients ultimately died.

No toxic effects attributable to hydroflumethiazide were seen in any patients.

A study of the response to a single dose showed a marked increase in sodium and chloride excretion with no increase in bicarbonate loss. It therefore appears that hydroflumethiazide does not significantly inhibit carbonic anhydrase.

While some increased potassium excretion has been demonstrated, absence of significant carbonic-anhydrase inhibition might be expected to reduce the degree of potassium depletion. J. H. JONES, M.B., M.R.C.P.,

J. VERRIER JONES, B.M., M.R.C.P. Brit. Med. J. (1959), No. 5157, P. 928 Concluded on page 186a

White Laboratories Inc.

KENILWORTH, NEW JERSEY

WHITE'S NEW ORAL SYNTHETIC PENICILLIN

Dear Doctor:

The use of identifying letters to distinguish different penicillins produced biologically is, of course, a familiar circumstance. Fortunately, the letter "S" has not been preempted, and it is perhaps fitting that this be applied to the first penicillin compound produced synthetically.

This antibiotic is to be offered by White Laboratories under the name Dramcillin-S. A name (Dramcillin) that represents pioneering in the field of liquid penicillin.

Briefly, Dramcillin-S has the noteworthy advantage of producing high blood levels quickly and reliably -- higher blood levels than are secured with other oral penicillins, or even with injections of penicillin G.

In addition, some strains of staphylococci that are resistant to other penicillins have been found more sensitive to Dramcillin-S in vitro.

In the following pages you will find a number of interesting facts about the first synthetic penicillin available for clinical use.

Every effort is being made to assure that adequate supplies of Dramcillin-S will be available for your prescription at the earliest possible date.

Sincerely yours.

Minor Duggan, M.D.

Director, Professional Services

Afrior Duggan

PS. Dramcilliu-S for will be available for your prescription the



The new "spoon" penicillin

Blood levels
after oral
administration:
twice as high
as oral potassium
penicillin V.¹

AVERAGE SERUM CONCENTRATIONS (mcg./ml.)

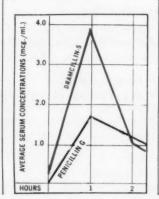
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PENICILLIN V

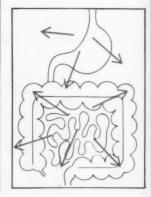
PROPERTY OF THE PR

...and

twice as
high as
intramuscular
penicillin G
potassium.



...absorbed speedily throughout the gastrointestinal tract—stomach to colon.²





that surpasses* the "needle"

Effective against "resistant" staphylococci: Some strains of staphylococci resistant to penicillins G, O and V in vitro exhibit sensitivity to potassium phenethicillin (DRAMCILLIN-S). This synthetic penicillin appears more resistant than natural penicillins to inactivation by staphylococcal penicillinase.

Allergenicity: It is not as yet possible to draw definite conclusions regarding the incidence of allergenicity to DRAMCIL-LIN-S, or to its cross-allergenicity with natural penicillins. It is recognized that oral therapy presents less danger of severe allergic reactions than does parenteral penicillin therapy. The usual precautions for oral penicillin therapy should always be observed. Special care should be exercised in patients with histories of asthma, hay fever, urticaria, or previous reaction to penicillin.

Indications: DRAMCILLIN-S is indicated in the treatment of infections caused by

penicillin-sensitive organisms. Like all oral penicillins, it is not recommended at present in deep-seated or chronic infections, subacute bacterial endocarditis, meningitis or syphilis.

Dosage: One or 2 teaspoonfuls (125 mg.), three or four times daily, depending on the severity of the infection. To assure optimum blood levels, it is advised that this medication be taken in the fasting state. Beta hemolytic streptococcal infections should be treated for at least 10 days.

Availability: Bottles of 30 and 60 cc. Each teaspoonful (5 cc.) supplies 125 mg. DRAMCILLIN-S, equivalent to 200,000 units.

References: 1. Wright, W.: Cited by Morigi et al. 2. Pindell, M. H.; Tisch, D. E.; Hoekstra, J. B., and Reiffenstein, J. C.: Antibiotics Annual, 1959-1960, p. 119. 3. Morigi, E. M. E.; Wheatley, W. B., and Albright, H.: Antibiotics Annual 1959-1960, p. 127. *built regard to immediate blood levels





stop pain with Nupercainal

... For minor cuts and burns, sunburn, hemorrhoids, removing sutures, performing routine office surgery, making instrument examinations. And, to best suit every situation, there's a choice of Ointment, Cream, Lotion, Suppositories.

a new infant formula nearer to mother's milk in Infant formula nutritional breadth and balance

NEARER to mother's milk... in caloric distribution of protein, fat and carbohydrate
NEARER to mother's milk... in vitamin pattern

(vitamin D added in accordance with NRC recommendations)

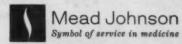
NEARER to mother's milk . . . in osmolar load

ENFAMIL IS ALMOST IDENTICAL to mother's milk in ...

- ratio of unsaturated to saturated fatty acids
- absence of measurable curd tension . . . enhances digestibility

Enfamil contains oleo and vegetable fats . . . does not result in sour regurgitation

*Trademark



to help control progressive disorders of aging...

ELDEG mineral-vitamin-hormone supplement

begins at 40

KAPSEALS®

Taken during the middle years, ELDEC Kapseals help forestall nutritional and hormonal deficiencies that contribute to the troublesome disorders of aging. ELDEC Kapseals provide comprehensive physiologic supplementation...aid in maintaining metabolic efficiency. At a time when normal function is declining, ELDEC Kapseals help lay a firm foundation for good health and vitality in the later years.



PARKE, DAVIS & COMPANY
Detroit 32, Michigan



Imipramine in Depressive States

A controlled trial was carried out to evaluate the effects of imipramine on endogenous and reactive depression.

In endogenous depression 74% of cases showed a good response to the drug, while 22% responded to the placebo (P<0.01).

In reactive depression 59% responded satisfactorily on imipramine, as compared with 20% on the placebo (P < 0.02).

On comparing these results with those of a previous trial of iproniazid the impression was obtained that imipramine was the more effective agent in treating endogenous depression.

> J. R. B. BALL, M.B. and L. G. KILOH, M.D. Brit. Med. J. (1959), No. 5159, P. 1052

Psychoneurotic Outpatients Treated with Trifluoperazine

Reports on the action of trifluoperazine (Stelazine) when administered to hospitalized psychotic patients indicated that the drug controlled excessive psychomotor agitation, and stimulated the withdrawn patient as well as the chronic psychotic. No evidence had been observed of jaundice, blood dyscrasias, seizures, or significant hypotension associated with its use. A group of 72 psychoneurotic outpatients were studied by the author. The usual initial dosage with Stelazine was 1 or 2 mg. three to four times daily; this was subsequently adjusted to patient response. The usual dose became 1 mg. twice daily, and the average duration of therapy was four weeks. The author further states that as a result of trifluoperazine therapy, 52 members of the group became free of symptoms, were able to return to former normal activities, and were able to adjust to stress situations. Twelve persons were well controlled and comfortable, but required medication during periods of stress. Five patients were partially benefited. The fact that a majority of the group voluntarily discontinued the medication, but continued to feel well seemed noteworthy. It was observed, too, that the drug was equally effective whether the illness had been of long- or short-duration. The action of Stelazine was rapid: patients reported improvement within a day or two. Best results from the use of the drug were seen in acute and chronic anxiety states.

ERNEST S. GODDARD, M.D.

Canadian Medical Assn. Journal (1959), V. 81,

No. 6, P. 467

Evaluation of Halothane

Halothane (Fluothane), one of the newer anesthetics, is reported as being potent, nonflammable, nonexplosive, and volatile. The authors employed the agent in 5,129 unselected operative procedures. Originally, premedication consisted of meperidine and scopolamine hydrobromide administered one and one-half hours preoperatively and pentobarbital sodium given one hour before the operation; later, this was changed to alphaprodine hydrochloride, scopolamine hydrobromide, and levallorphan tartrate. Atropine sulfate was used only in the presence of moderate bradycardia. With a two percent concentration of halothane, induction was smooth; there was an absence of nausea and vomiting, a minimal amount of coughing and breathholding, complete absence of cyanosis; in 80 percent of the cases of abdominal operations, the patients were sufficiently relaxed without the addition of a muscle relaxant. When muscular relaxation was not a requirement, and when only a light stage of anesthesia was needed, concentrations from 0.4 to 1.25 percent were all that was needed. The author states the results, though unsatisfactory when halothane was administered without adequate control, were most gratifying to both anesthesia and surgical staffs when accurate control was employed. Hypertension was not a problem, and there was no evidence of hepatic, renal, or myocardial toxicity. There were 23 postoperative deaths in the series, but in no instance was the anesthetic believed to be responsible. It is believed at present that further study will produce greater efficiency in administration.

JOHN ABAJIAN, JR., ET AL. J. A. M. A. (1959), Vol. 171, No. 5, P. 535

for happy, healthy retirement years

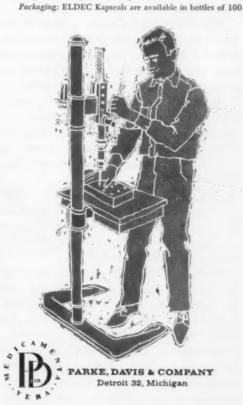
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NEWS AND NOTES

Selected items of current interest from the fields of medical research and education

Caution Urged When Giving Antibiotics

A government scientist urged physicians to take great care when administering antibiotics. Henry Welch, Ph.D., said that between 17 and 20 million persons in the United States may be allergic to large doses of the drugs and react unfavorably.

Dr. Welch, who is director, division of antibiotics of the Food and Drug Administration, feels that the danger of persons receiving too many antibiotics has been increased by the use of the drugs in fields other than medicine.

He said, "There are now over 400 preparations of antibiotics available for clinical use, and they run the gamut of injectables, ointments, powders, sprays, capsules, syrups, ear and eye drops, suppositories, troches, and tablets."

Also the drugs are being used in animal nutrition for promotion of growth in swine, chicks, and poults, as well as being employed as crop sprays to prevent blight in apples, pears, walnuts, and beans.

Dr. Welch said, "Antibiotics have saved tens of thousands of lives in the past 15 years, and the reduction in the rates of mortality, morbidity, and complications of diseases has affected the lives of millions."

"Nevertheless, with such major advances in therapy and consequent wide use, unfortunately we have to face the accompanying untowards side-reactions that invariably follow."

He pointed out that normally these side-

effects are not too severe but can be uncomfortable. They run the range from mild rashes, asthmatic attacks, and in some instances to fatal shock and it is up to the physician to take proper steps in administering the drugs in order to avoid these unfavorable side-reactions.

Lifesaving Methods Adopted by Red Cross

The American Red Cross has officially adopted the mouth-to-mouth technique of artificial respiration for adults as well as children. Teaching of the method in Red Cross first aid and water safety courses will begin immediately. The technique was declared the most practical in a unanimous verdict of a committee of the National Academy of Sciences-National Research Council after a thorough review of artificial respiration data. The Red Cross delayed announcement of its adoption of the method only long enough to prepare and have published an instruction manual for use of its volunteer class instructors. Distribution of copies of this manual to the 3,700 Red Cross Chapters was completed early in July.

The Red Cross still considers manual methods of artificial respiration acceptable for rescuers who cannot or will not use the mouth-to-mouth or mouth-to-nose technique. The two methods it recommends are the Nielsen back pressure-arm lift method and the Silvester chest pressure-arm lift method.

Continued on page 190a

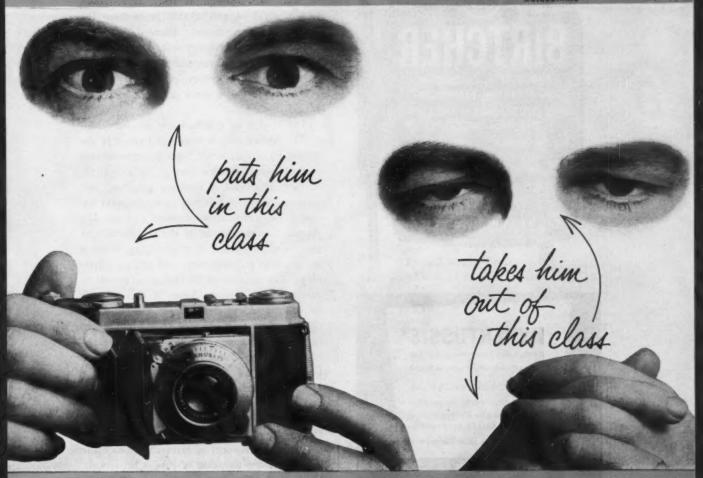
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ANTIHISTAMINE DOES FOR YOUR PATIENT

ANTI-ALLERGIC SIDE EFFECTS

Twiston



TWISTON-the NEW "TAILOR-MADE" ANTIHISTAMINEhas been designed to provide full symptom-control—yet side effects, particularly drowsiness, are negligible or absent.

- No toxicity has been reported with TWISTON
- Keeps patient symptom-free, alert—with unusually low dosage

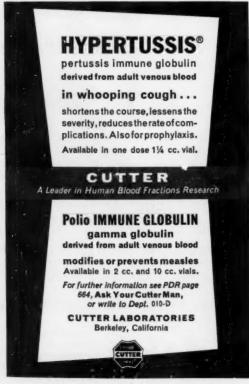
available dosage forms: Tablets TWISTON, 2 mg. Tablets TWISTON R-A, 4 mg. (Repeat Action Tablets) usual desege:
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Adults: 1 to 2 tablets t.l.d. or q.l.d.
Children: 1/2 to 1 tablet t.l.d. or q.l.d.
TWISTON & A
Adults: 1 tablet q. 8 to 12 hours.

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Colombian University Expands Facilities

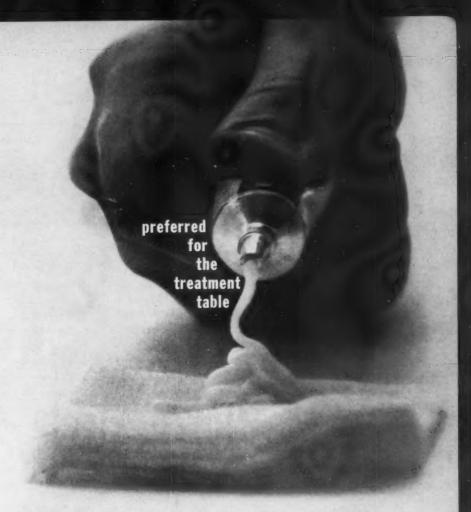
The Faculty of Medicine of the University of Valle will enlarge its research programs with the aid of a \$125,000 grant from the Rockefeller Foundation. Located in Cali, Colombia, the University will use the funds for the support of research in biochemistry, obstetrics and gynecology, endocrinology, and hematology, over a three and one-half year period.

The studies in biochemistry are being led by Dr. Antonio Colas who was trained at the University of Edinburgh. Since his appointment as Professor of Biochemistry at Valle in 1957, he has developed a teaching program, and formed an interdisciplinary research team for studies on steroids and enzyme systems. Dr. Alvaro Cuadros, leader of the obstetrical and gynecological studies, is emphasizing research on toxemias in pregnancy, and uterine physiology. The relation of the endocrine system to nutrition is the major focus of the research in endocrinology directed by Dr. Eduardo Gaitan, while the causes of anemia and other hematological conditions will be investigated by Dr. Jacobo Ghitis. Founded in 1950, the Cali Faculty of Medicine is inaugurating a program of medical education and care adapted to Colombian cultural patterns.

University of Louvain Expands Research

Continuing support of research in biochemistry under the direction of Prof. Christian de Duve of the University of Louvain, Belgium, the Rockefeller Foundation has appropriated \$60,000 for use over a four-year period. In their cytological studies, Prof. de Duve and his associates have contributed to methods of cell particle fractionation. The Laboratory of Physiological Chemistry is now being enlarged. The present grant will be used, like earlier Foundation grants dating from 1950, to add to the staff and equipment required for the work of the program.

Continued on page 192a



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Neo-Polycin® provides neomycin, bacitracin and polymyxin, the three antibiotics preferred for topical use because this combination is effective against the *entire* range of bacteria causing most topical infections...has a low index of sensitivity...and averts the risk of sensitization to lifesaving antibiotics, since these agents are rarely used systemically. And Neo-Polycin provides these three antibiotics in the unique Fuzene® base, which releases higher antibiotic concentrations than is possible with grease-base ointments. Each gram of Neo-Polycin contains 3 mg. of neomycin, 400 units of bacitracin and 8000 units of polymyxin B sulfate in the unique Fuzene base. Supplied in 15 Gm. tubes PITMAN-MOORE COMPANY, DIVISION OF ALLIED LABIONATORIES, INC., INDIANAPOLIS 6, INDI

Dr. Bruce D. Graham

Dr. Bruce D. Graham, Professor of Pediatrics at the University of Michigan Medical Center, has been appointed Chairman of the Department of Pediatrics at the University of British Columbia, Vancouver, Canada.

New Curriculum at Indiana University

Indiana University has announced the appointment of Dr. Douglas A. MacFadyen, of the University of Illinois College of Medicine, Chicago, to direct its new experimental program in medical education to be inaugurated this year. The new program, called a departure and extension of traditional medical training, was announced coincident with the University's receipt of a pilot grant of \$173,000 by the Commonwealth Fund.

Starting this fall with a limit of ten students, selected from about 180 to be admitted to the School of Medicine, the program will draw on the resources of the College of Arts and Sciences and the Graduate School, and will be

administered by the Medical School at Indianapolis under Dean John D. VanNuys. Eventually, 30 students at the end of their junior year in arts and sciences will be selected. Students in the new program will accomplish work for an A.B. degree and then work in the six preclinical departments constituting the first two years of a medical curriculum and a broader than usual scientific and cultural training capped by an A.M. degree.

Thereafter, each student may proceed either to a medical career after a clinical training with or without further work in the Graduate School or to some other career in research and teaching. The new program has these objectives: a thorough training in polytechnical and cultural subjects, preparation of medical students whose paramount interests are in research and teaching, and an increase in the number of broadly qualified physicians.

Dr. MacFadyen also will be Professor of Pathology in the School of Medicine.

Continued on page 194a



"The best . . cough . . thing to do . . sniff . . for your cold . . cough . . is to . . sniff . . spend three days in bed . . cough."

on-the-go relief from recurrent throbbing headaches

including migraine syndromes, other vascular headaches, histaminic cephalalgia, and occipital neuralgia

Medihaler-Ergotamine

Oral Inhalation o

Fastest overall method for relieving recurrent throbbing headache

Approximates speed and predictability of relief following ergotamine injection.

Eliminates delay in treatment...Medihaler travels with the patient...ready and in use in 5 seconds!

'In a series of over 300 episodes of vascular headache in 41 patients 'Medihaler'-Ergotamine was effective in about 70%.'

Graham, J.R.: Faulkner Hospital, Jamaica Plains, Boston. Desage: A single inhalation at onset of headache. Additional inhalations should be spaced not less than 6 minutes apart. Not more than 6 inhalations in any 24-hour period.

In 2.5 oc. stainless steel vial (50 doses) with plastic oral adapter. Each depression of metering valve delivers 0.36 mg, ergotamizes to the standard of the contract of the c

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NEWS AND NOTES-Continued

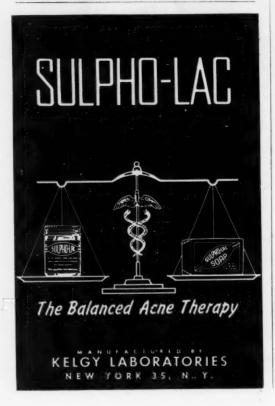
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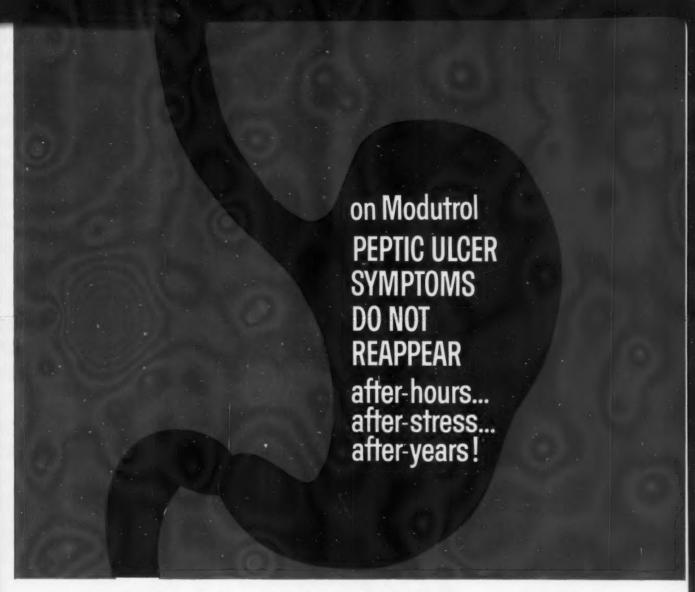
Surgical Center at St. Barnabas Hospital

A surgical center designed exclusively for chronic disease treatment and research was dedicated at St. Barnabas Hospital, Bronx, New York. The center known as the Kane Surgical Addition was constructed as an additional floor on the Kane Pavilion, an existing St. Barnabas building. The air-conditioned center consists of four operating rooms and supporting facilities. Largest among these is the neurosurgical operating room which includes a wall-sized kymograph screen, visible from all parts of the room, on which simultaneous recordings of the patient's blood pressure, pulse, respiration, and other measurements can be made. On a special boom that can be moved directly above the table, another monitor is located for recording visually such measurements as electrocardiograms and electroencephalograms. Also a panel box has connections for thermostatically controlled warm saline; suction mechanisms; remotely controlled electrocautery and electrocutting; X-ray controls; timing devices, and several others.

Office of Mental Retardation

Organization of an Office of Mental Retardation in the New York State Department of Mental Hygiene to coordinate and develop all services for the mentally retarded was announced by Dr. Paul H. Hoch, Commissioner of Mental Hygiene. The new office will have its headquarters in the Department's Albany office. It will be under the direction of Dr. Arthur W. Pense, Deputy Commissioner. The staff of the office will visit the state's six institutions for the mentally defective regularly, and will coordinate the institutional programs and activities with the work of various units in the central office of the department. Another responsibility will be the development of new institutions for the mentally retarded which will be necessary to provide for those patients who cannot be cared for in community programs.

Concluded on page 198a



Modutrol allows complete and lasting freedom from symptoms—without dietary restrictions. Of all agents tested, only Modutrol achieved the three rigid objectives for success in peptic ulcer therapy: relief of symptoms, healing of ulcer and prevention of recurrences or complications. Moreover, Modutrol met these criteria in over 96 per cent of all patients tested.¹

Psychophysiologic Medication To Combat A "Psychovisceral Process"

Therapeutic efficacy of Modutrol is enhanced by its psycho-active component, Sycotrol—proved clinically to be not only more effective than either sedatives or tranquilizers, but ideally suited for ambulatory patients because they do not experience commonly encountered side effects of depression and habituation. Sycotrol, a psychotropic agent with antiphobic prop-

erties, acts against fears and anxieties that find outlets in visceral manifestations. Modutrol combines the psycho-active agent with preferred antacid and anticholinergic therapy to provide total management of the disorder.

FORMULA: Each Modutrol tablet contains; Sycotrol (pipethanate hydrochloride) 3 mg., scopolamine methylnitrate 1 mg., magnesium hydroxide 200 mg., aluminum hydroxide 200 mg.

DOSAGE: One tablet 8 or 4 times daily.

SUPPLIED: Bottles of 50 and 100 tablets.

CONTRAINDICATIONS: Contraindicated in glaucoma because of its anticholinergic components.

Rosenblum, L. A.: Report, Symposium on Peptic Uicer, University of Vermont School of Medicine, September 24, 1959.
 Also available: Sycotrol tablets 8 mg. Bottles of 100 tablets.





Psycho-physiologic Management

MODUTROL

When the Target Organ of Fear-anxieties is the G.I. Tract and Peptic Ulcer Results.



Toes are to wiggle



A lap is so you don't get crumbs on the floor



Rugs are so dogs have napkins



REDISOL is so kids have better appetites

Redisol (Cyanocobalamin, crystalline vitamin B_{12}) often stimulates children's appetites with consequent weight gain. Tiny **Redisol Tablets** (25, 50, 100, 250 mcg.) dissolve instantly in the mouth, on food or in liquids. Also available: cherry-flavored **Redisol Elixir** (5 mcg. per 5-cc. teaspoonful); **Redisol Injectable**, cyanocobalamin injection USP (30 and 100 mcg. per cc., 10-cc. vials and 1000 mcg. per cc. in 1, 5 and 10-cc. vials).

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85% SUCCESS:1,3 TRIBURON VAGINAL CREAM ACHIEVED SYMPTOMATIC CONTROL IN 109 OF 128 WOMEN WITH TRICHOMONAL, MONILIAL AND NON-SPECIFIC VAGINITIS. PARTICULARLY GOOD RESULTS WERE OBTAINED IN TRICHOMONAL AND MIXED INFECTIONS. ONLY TWO INSTANCES OF TRANSIENT BURNING OCCURRED, AND ONLY 11 RECURRENCES WERE NOTED. FURTHER, THE ACTIVE COMPONENT OF TRIBURON VAGINAL CREAM, TRICLOBISONIUM CHLORIDE, HAS BEEN PROVED "NON-IRRITATING ... NOT SENSITIZING."3

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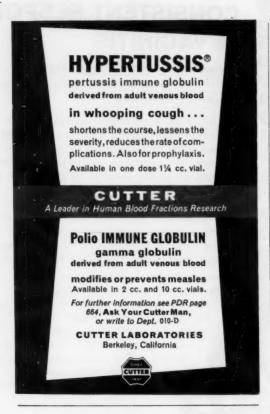
REFERENCES: 1. N. MULLA AND J. J. McDONOUGH, ANN. NEW YORK ACAD. SC., 82:(ART. 1), 182, 1959 2. L. E. SAVEL, D. B. GERSHENFELD. J. FINKEL AND P. DRUCKER, IBID., P. 186. 3. R. C. V. ROBINSON AND L. E. HARMON, ANTIBIOTICS ANNUAL 1958-1969, NEW YORK, MEDICAL ENCYCLOPEDIA,



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Physicians Do Travel Far for Postgraduate Classes

Physicians are willing to travel great distances—even more than 300 miles—to attend postgraduate medical education courses, a new American Medical Association study shows.

The study was conducted by the A.M.A. Council on Medical Education and Hospitals. It deals with 20,432 physicians who enrolled in post-graduate courses between Sept. 1, 1956, and Aug. 31, 1957.

Postgraduate courses are given by hospitals, medical schools, medical societies or governmental agencies to help physicians keep up with the many rapid advances in medicine.

New Allergy Laboratory

A new research laboratory to study allergy has been set up in the Research Institute of the Michael Reese Medical Center, Chicago, by the Department of Allergy. The laboratory was established for the purpose of carrying on basic research in immunity and allergy and of permitting residents and staff members in the department to participate in and develop basic science investigation. The laboratory is presently engaged in investigating the relationship between allergy and immunity. The work of the research laboratory is supported chiefly by the Jessie Werthamer Service Club, which furnishes more than half of its operating funds.

Argentine Medical Society Formed

The Argentine Society of Medical Education has been formed for the study of problems in medical education, with special immediate emphasis on: (1) the establishment of postgraduate residency systems in federal, municipal, and private hospitals, (2) modernization of the hospital system, (3) creation of specialty accreditation and recognition in the various medical fields, and (4) collaboration with medical, scientific, and educational organizations with similar objectives.



on the spot coverage

A TOPICAL FUNGICIDE FOR TOPICAL FUNGOUS INFECTIONS

Athlete's foot is caused by fungi invading the horny, keratinized layers of the skin that are not reached by the normal blood supply. Desenex applied topically to superficial fungous infections brings the antifungal undecylenic acid and zinc undecylenate into direct contact with the fungi. Hundreds of thousands of cures in athlete's foot have resulted from topical treatment with Desenex — proved to be among the least irritating and best tolerated of all potent fungicidal agents. Pennies per treatment — Desenex Ointment may be applied liberally to both feet every night for a week and a half from a single tube.

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"R Day"

for the neuritis patient can be tomorrow

"R Day"—when pain is relieved—can come early for patients with inflammatory (non-traumatic) neuritis if treatment with Protamide is started promptly after onset.

Protamide is the therapy of choice for either early or delayed treatment, but early use assures greatest efficacy.

For example, in a 4-year study¹ and a 26-month study² a combined total of 374 neuritis patients treated with Protamide during the first week of symptoms responded as follows:

60% required only 1 or 2 daily injections for complete relief 96% experienced excellent or good results with 5 or less injections

Thus, the neuritis patient's first visit—especially an early one—affords the opportunity to speed his personal "R Day."

Protamide is available at pharmacies and supply houses in boxes of ten 1.3 cc. ampuls. Intramuscularly only, one ampul daily.

PROTAMIDE[®]



PAGE 813



Detroit 11, Michigan

1. Lehrer, H. W., et al.: Northwest Med. 75:1249, 1955.

2. Smith. Richard T.: New York Med. 8:16, 1952.



when emotional turbulence threatens medical or surgical care

Fear, agitation, and resistance often hinder medical diagnosis and treatment.

Sparine alleviates agitation, overcomes resistance, placates fears.

In addition to calming the patient, Sparine controls other interfering symptoms: nausea, vomiting, and hiccups.

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THIS IMPORTED DECORATOR'S PIECE MAKES AN OUTSTANDING GIFT OR PRIZE THAT SURELY WILL BE TREASURED BY ITS RECIPIENT. COMBINING GRACE AND A TOUCH OF HUMOR, IT WILL ADD A NOTE OF CHARM TO A PHYSICIAN'S OFFICE OR HOME.

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DIAGNOSIS, PLEASE

(Answer from page 33a)

CALCIFICATION OF THE VAS DEFERENS.

Occurs occasionally in males
with longstanding diabetes.

WHO IS THIS DOCTOR?

(Answer from page 69a)

JEAN BASIELLAC, known as Frere Cosme

MEDIQUIZ

(Answers from page 73a)

1 (E), 2 (A), 3 (D), 4 (C), 5 (E), 6 (A), 7 (B), 8 (B), 9 (D), 10 (B), 11 (C).

WHAT'S YOUR VERDICT?

(Answer from page 53a)

The Supreme Court affirmed the judgment of the trial court, holding: "The law does not permit a physician to be at the mercy of testimony of his expert competitors, whether they agree with him or not. Where there are various recognized methods of treatment the physician is at liberty to follow the one he thinks best, and is not liable for damages because expert witnesses give their opinion that some other method would have been preferable."

Based on decision of SUPREME COURT OF ALABAMA

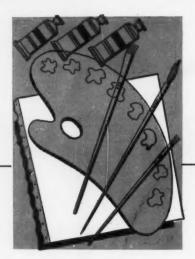


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Covering the Times

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Women play an important role in the life of our modern hospitals. In this month's cover Stevan Dohanos pays tribute to all hospital auxiliaries and particularly to the Norwalk (Conn.) Hospital Volunteers, who perform numerous services in behalf of patients, visitors, physicians and hospital personnel.

The busy setting is lunch time in the hospital's coffee shop, which is operated by the Volunteers, consisting of some 600 civic-minded women of the community. Between 700 and 800 patrons are served daily in this small shop, which occupies a corner of the main building just off the spacious front lobby seen in the background.

Staffed by a few paid workers and a host of Volunteers dressed in attractive blue uniforms,

the coffee shop is a pleasant place for a quick snack or for a few moments of relaxation. Newspapers, magazines, floral arrangements, toys, costume jewelry and other articles also may be purchased here.

On hand to perform her share of volunteer service is Mrs. Allrich S. Harrison, president of the organization, who is seen answering the phone and attending to the cash register. Dedicated to her responsibilities, Mrs. Harrison finds herself spending many hours at the hospital each month attend-

ing meetings, checking with the Director of Volunteers or taking her turn on an assignment such as cashier.

Volunteers contributed more than 33,000 hours of service in 1959. In addition to the coffee shop, they serve in nursing units and other departments, maintain a library, flower and coffee shop service for bedridden patients, help in the children's playroom and sponsor a picture service for mothers of newborn.

Among other accomplishments over the years, the Volunteers have donated three ambulances, new equipment and furniture for the nurseries, clinics and other sections of the hospital; have contributed \$10,000 toward the hospital's Development Program and recently pledged an additional \$20,000 which they hope to pay by the end of 1963.

Stevan Dohanos checks details of volunteer activities with Mrs. Harrison.



"between-meal" iron therapy without G.I. penalty



solves the old problems of oral iron therapy

Previous problem:	Ferronord solution:
Oral forms didn't give high enough absorption	5 times greater absorption than ferrous sulfate ¹
Older oral forms too slow in eliciting response	Elevates serum iron in 3 hours; ¹ maximum reticulocyte response in 5 to 9 days ²
Older oral forms produced gastric upset, nausea, constipation, etc., unless given with meals. But meals interfere with iron absorption.	Side effects "extremely rare"; ² 95-98% of patients previously intolerant are Ferronord-tolerant. ²

Ferronord is so well tolerated that it may be given between meals. This is a great advantage—for two reasons. It saves the "iron-intolerant" patient the misery of gastric irritation, cramps and the other usual iron side effects. And the between-meal administration of Ferronord means greater utilization of this iron therapy because there is less interference with its gastric absorption.

DOSAGE SCHEDULE: For prophylaxis (as in pregnancy) 1-2 Ferronord Tablets (or 1-2 cc. Liquid) o.d. or b.i.d. For mild to moderate anemias 1 Ferronord Tablet (or 1 cc. Liquid) t.i.d. For severe anemias 2 Ferronord Tablets (or 2 cc. Liquid) t.i.d.

SUPPLY: Tablets, bottles of 100; Liquid, 60 cc. bottles with calibrated droppers. Each tablet (or cc.) contains 40 mg. of elemental iron.

Bibliography: 1. Feldman, H. S., and Claricy, J. B.: Geriatrics 13:517 (Aug.) 1968, S. Pomerante, J., and Gadek, R. J.: New England J. Med. 25:723 July 11) 1967, S. Clancy, J. B.: Am. Pract. & Digest Treat.:1946 (Dec.) 1957, Ferromord®—brand of ferroglycine sulfate complex, U. S. Patent No. 2377253



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Tassette United Fruit Co. Bananas U. S. Vitamin & Pharmaceutical Corp. Pantho-Foam	129a 1, 77a 114a 56a 60a 103a 39a 137a 1170a 133a 177a 158a 1, 83 158a 1, 183 168a 168a 1, 183 168a

IN ORAL CONTROL OF PAIN

ACTS FASTER—usually within 5-15 minutes, LASTS LONGER—usually 6 hours or more. MORE THOROUGH RELIEF—permits uninterrupted sleep through the night. RARELY CONSTIPATES—excellent for chronic or bedridden patients.

AVERAGE ADDLE DOSE: 1 tablet every 6 hours. May be habit forming. Federal law permits oral prescription.

Each Percodan. Tablet contains 4.50 mg, dihydrohydroxycodeinone hydrochloride, 0.38 mg, dihydrohydroxycodeinone terephthalate, 0.38 mg, homatropine terephthalate, 224 mg, acetylsalicylic acid, 160 mg, phenacetin, and 32 mg, caffeine.

Also available — for greater flexibility in dosage — Percopan*-Demi: The Percopan formula with one half the amount of salts of dihydrohydroxyco deinone and homatropine.

Endo

Literature? Write ENDO LABORATORIES

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Percodan

U.S. Pat. 2,628,185

Clarin* can do this for your postcoronary patients



WITHOUT CLARIN, turbid blood serum five hours after a fat meal: This unretouched dark-field photomicrograph (2500X) shows potentially hazardous fat concentrations circulating in the blood stream of a patient after a standard fat meal.

CLARIN is sublingual heparin potassium. One mint-flavored tablet taken after each meal effectively "causes a marked clarification of post-prandial lipemic serum." Clarin facilitates the normal physiologic breakdown of fats, with no effects on the blood-clotting mechanism. It therefore provides important benefits for your postcoronary patients.

Indication: For the management of hyperlipemia associated with atherosclerosis.

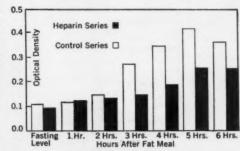
Dosage: After each meal, hold one tablet under the tongue until dissolved.

Supplied: In bottles of 50 pink, sublingual tablets, each containing 1500 I.U. heparin potassium.

- 1. Fuller, H. L.: Angiology 9:311 (Oct.) 1958.
- Shaftel, H. E., and Selman, D.: Angiology 10:131 (June) 1959.



WITH CLARIN, clear blood serum five hours after a fat meal: After eating a standard fat meal as at left, the same patient has taken one sublingual Clarin tablet. Note marked clearing effect and reduction in massive fat concentrations in this unretouched photomicrograph (2500X).



Average serum optical density in 36 patients after fat meal with and without sublingual heparin.²

*Registered trade mark. Patent applied for.

Thes. Leeming & Ca. Inc. New York 17, N. Y.



Photos Courtesy F. C. Gindhart, M.D.

For more successful pregnancies in habitual aborters

When added to your individualized anti-abortive regimen, NUGESTORAL may help you bring more habitual aborters to successful term.

By supplying five therapeutic agents known to contribute to fetal salvage, NUGESTORAL creates an optimal maternal environment for the maintenance of pregnancy.

Nugestoral supplies in each daily dose of three tablets:

• Progestational action helps maintain fetus

Relieves uterine spasticity

Ascorbic Acid (Vitamin C) 525.0 mg.

• Prevent or correct abnormal capillary fragility

• Protect and strengthen decidual vessels

• Prevents hypoprothrombinemia in mother and child

dl, Alpha-Tocopherol Acetate (Vitamin E) 10.5 mg.

• Extra nutritional insurance

DOSAGE: Prophylactic - One NUGESTORAL tablet t.i.d. from diagnosis through at least the second trimester.

Symptomatic — Two tablets t.i.d. or q.i.d. until symptoms are controlled. Then one tablet t.i.d.

Available in boxes of 30 and 100. Write for copies of recent clinical reports.

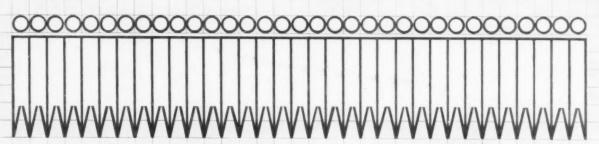


ORGANON INC., ORANGE, N. J.

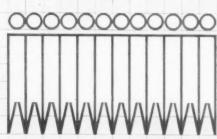
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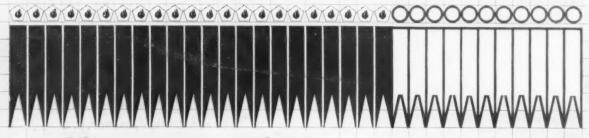
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treats more patients more effectively...



Of 45 arthritic patients who were refractory to other corticosteroids*





22 were successfully treated with Decadron'

- 1. Boland, E. W., and Headley, N. E.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

 2. Bunim, J. J., et al.: Paper read before the Am. Rheum. Assoc., San Francisco, Calif., June 21, 1958.

 **Cortisone, prednisone and prednisolone.

 DECADRON is a trademark of Merck & Co., Inc.
- Additional information on DECADRON is available to physicians on request.

